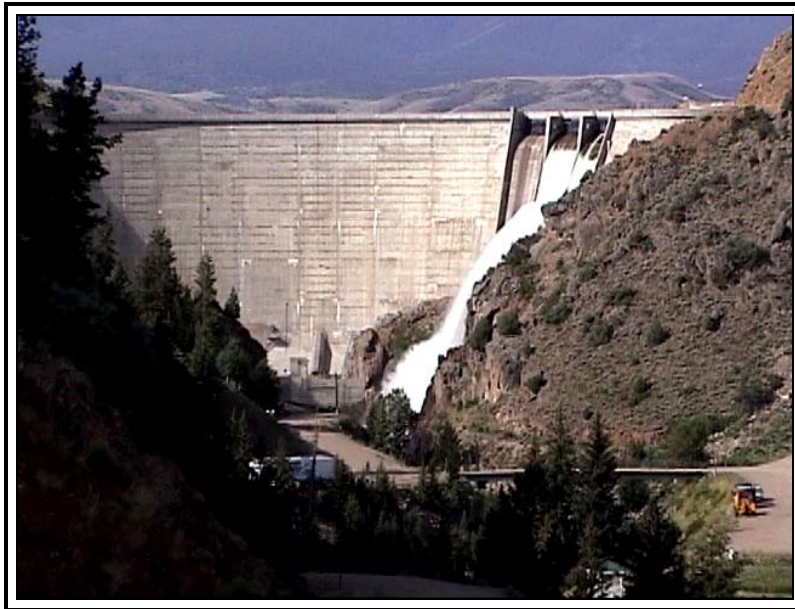

**Williams Fork Reservoir Hydroelectric Project
FERC No. 2204**

**Volume II
Preliminary Draft Environmental Assessment**



December 2004



**1600 W. 12th Avenue
Denver CO 80204**

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Preliminary Draft Environmental Assessment

WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT FERC Project No. 2204

SUMMARY

In December 2004, Denver Water filed an application for the continued operation of the Williams Fork Reservoir Hydroelectric Project, FERC Project No. 2204, (Williams Fork Project or Project) with the Federal Energy Regulatory Commission (FERC). Denver Water has prepared this Preliminary Draft Environmental Assessment (PDEA) as Exhibit E of its application.

The Williams Fork Project is a major project of less than 5 megawatts (MW) located on the Williams Fork River in Colorado. Denver Water proposes to increase the Williams Fork Project generating capacity from 3.15 MW to approximately 3.65 MW, which would allow Denver Water to make more effective use of the hydropower resource and would also allow the Williams Fork Project to qualify for a license exemption. Alternatively, the FERC could relicense the Project, allowing Denver Water to continue operating the existing turbine-generator at 3.15 MW capacity. This PDEA analyzes the effects of continued operation of the Williams Fork Project under an exemption or under a new license.

If the FERC grants a license exemption for the Williams Fork Project, the new generating unit would be installed adjacent to the existing powerhouse within the facility's previously developed footprint. Flow for the new unit would be diverted from the existing 66-inch-diameter penstock. The existing penstock and the existing river outlet works area would be modified to accommodate the new power unit, and the new turbine would discharge into the same tailrace as the existing turbine.

Operation of the Williams Fork Project is directly related to the volume and timing of diversions from the Colorado River system to satisfy Denver Water's municipal water supply demands. Anticipated future changes in these diversions will eventually result in changes to Williams Fork Project hydrology up to its full or maximum use for replacement water. In this PDEA, the full-use hydrology is evaluated. The modeling of current and future hydrology based on historical inflows and current and anticipated future demand indicates that the future hydrology will not be very different from the current hydrology under either an exemption or a new license (Denver Water 2004b).

Denver Water proposes the following environmental protection and enhancement measures for continued operation of the Williams Fork Project under either an exemption or a new license:

- Complete erosion control work along the southeastern shoreline of the reservoir, dispose of existing spoil piles, and revegetate affected area;

- Design and implement riverbank erosion control measures at the Williams Fork River inlet to the reservoir;
- Institute selective road closures to curtail upland erosion;
- Continue to release a minimum flow of 15 cubic feet per second (cfs) or inflow to the reservoir, whichever is less, from Williams Fork Reservoir at all times to protect downstream aquatic resources;
- Provide releases from the reservoir according to proposed ramping rate guidelines to protect the downstream fishery resource and provide for public safety;
- Control noxious weeds and restore vegetative cover at public access sites to minimize soil erosion and prevent reinvasion by weeds, as needed;
- Periodically re-evaluate noxious weed populations to assess the need for implementing weed control measures;
- Continue to participate in the Middle Park Sage Grouse Conservation Plan and manage Denver Water property within the FERC project boundary consistent with the plan;
- Continue to support implementation of the Colorado River Recovery Program for endangered Colorado River fish species under the Recovery Agreement with the U.S. Fish and Wildlife Service;
- Avoid disturbance of all National Register of Historic Places-eligible and potentially eligible historic sites;
- Rehabilitate and convert the reservoir inlet campground site for day-use access only;
- Create additional campsites at the east-side campground to compensate for loss of campsites at the reservoir inlet campground; site campsites away from adjacent private property;
- Add new Americans with Disabilities Act-compliant restrooms to the east-side and peninsula campgrounds;
- Post signs restricting motorized travel to existing roadways and encouraging responsible use of project environmental resources;
- Continue to maintain recreation facilities, including providing winter access for ice fishing on Williams Fork Reservoir.

These measures minimize the environmental effects of future project operations and would protect and enhance soils and geology, water quality, fisheries, vegetation, and wildlife including endangered species, aesthetics, recreation, and cultural resources in the project area.

The analysis performed in this PDEA concludes that issuance of a license exemption or a new license with these enhancement measures would not constitute a major federal action significantly affecting the quality of the human environment.

Preliminary Draft Environmental Assessment

WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT FERC Project No. 2204

I. APPLICATION

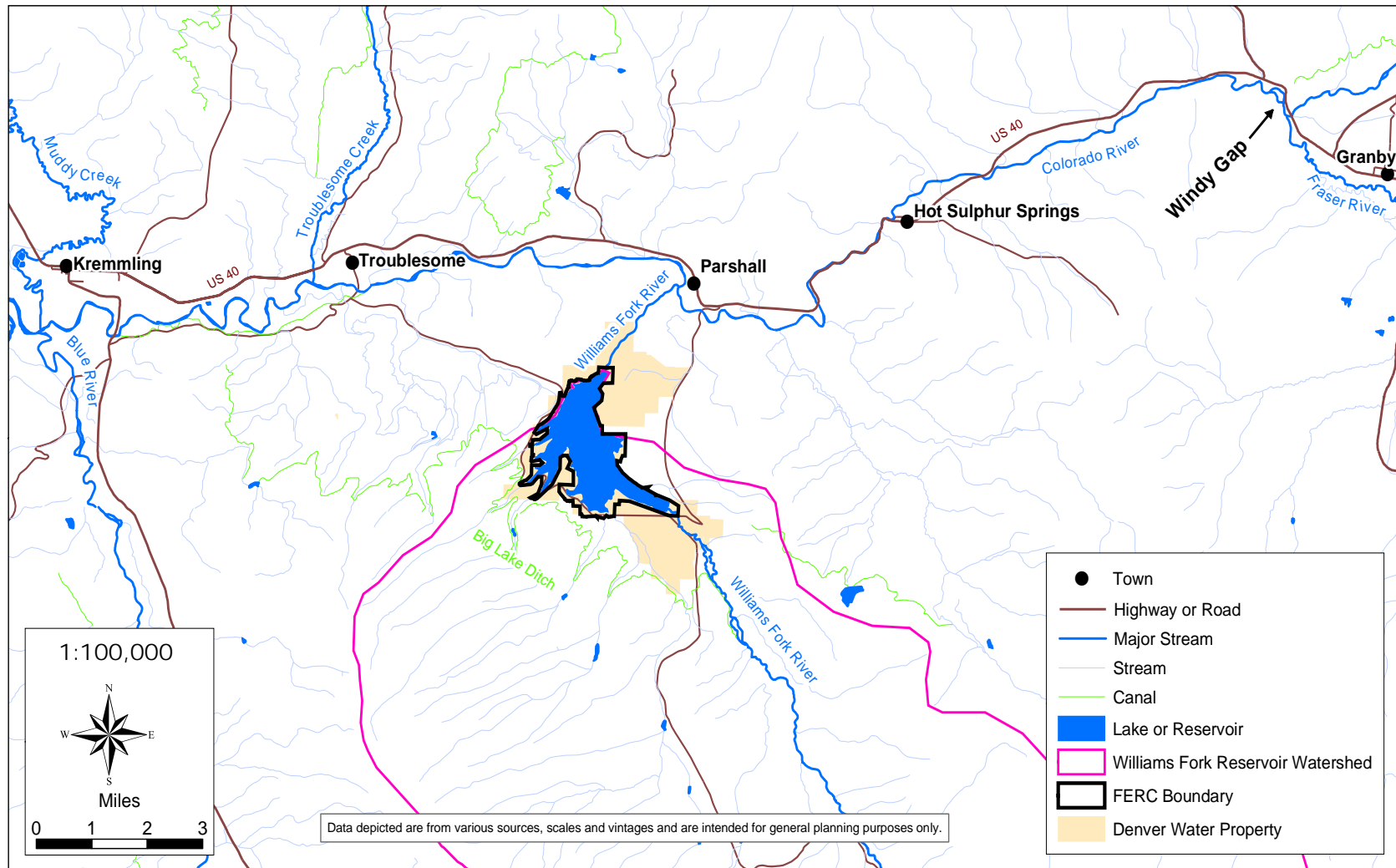
Denver Water has prepared this Preliminary Draft Environmental Assessment (PDEA) as Exhibit E of its application to the Federal Energy Regulatory Commission (FERC or Commission) for the continued operation of the Williams Fork Reservoir Hydroelectric Project (Williams Fork Project or Project), FERC Project No. 2204, under the Federal Power Act (FPA).¹

The Williams Fork Project is a major project of less than 5 megawatts (MW). The Project is located on the Williams Fork River approximately 2 miles upstream of its confluence with the Colorado River near the town of Parshall in Grand County, Colorado (Figure 1). The area is approximately 100 road miles west-northwest of Denver on the West Slope of the Rocky Mountains. Denver Water owns all lands within the FERC project boundary.

Denver Water operates the Williams Fork Project for power generation and municipal water supply purposes. Denver Water proposes to increase the Williams Fork Project generating capacity from 3.15 MW to approximately 3.65 MW if a license exemption is granted. An increase in generating capacity would allow Denver Water to make more effective use of the hydropower resource and to operate the Williams Fork Project under a license exemption. With the installation of an additional generating unit, the total combined capacity of the Williams Fork Project would still meet the “5 MW or less” criterion for a small hydroelectric power project exemption. In accordance with 18 CFR 4.33(d)(3), Denver Water is requesting that its application be reviewed first as an application for exemption from licensing. If the FERC determines that the Williams Fork Project does not meet the requirements for an exemption, Denver Water requests that the same application be reviewed for the purpose of issuing a new license that would allow Denver Water to continue operating the existing turbine-generator at 3.15 MW capacity.

¹ 16 U.S.C. § 791(a)-825(r).

Figure 1. Location of Williams Fork Project, Grand County, Colorado



II. PURPOSE OF ACTION AND NEED FOR POWER

A. Purpose of Action

The FPA provides the FERC with the exclusive authority to license non-federal waterpower projects on navigable waterways and federal lands. For any license issued, the Commission must determine that the project will be best adapted to a comprehensive plan for improving or developing the waterway. In addition to the power and development purposes for which licenses are issued, the Commission gives equal consideration to the purposes of energy conservation; protection, mitigation, and enhancement of fish and wildlife; protection of recreational opportunities; and preservation of other aspects of environmental quality.

The FERC will decide whether to grant the license exemption for the Williams Fork Project, as proposed by Denver Water, or to grant a new license for the Project that would allow Denver Water to continue operating the existing turbine-generator. The FERC will also decide what conditions should be placed on any license exemption or new license issued. Federal and state fish and wildlife agencies will have the opportunity to file recommendations, terms and conditions, and prescriptions once the application is filed.

This PDEA analyzes and evaluates the impacts associated with the Commission's action 1) granting a license exemption for the Williams Fork Project as proposed by Denver Water, including Denver Water's proposal to increase generating capacity or 2) issuing a new license for operation of the Williams Fork Project with no added capacity. The PDEA also considers the effects of the No-Action Alternative.

B. Need for Power

The electric power generated by the Williams Fork Project (3.15 MW) has two primary purposes. One purpose is to replace lost power production at the U.S. Bureau of Reclamation's (Bureau of Reclamation) Green Mountain Reservoir facility that occurs as a function of upstream water supply diversions by Denver Water. Secondly, excess power generated at the Williams Fork Project is sold to Tri-State Generation and Transmission Association, Inc. (Tri-State) and is used in the Rocky Mountain Power Area (RMPA). The RMPA is included in the Western Electricity Coordinating Council's (WECC) region. Some power is also used by Denver Water for on-site facility purposes.

Diversions from the Blue River at Denver Water's Dillon Reservoir have the potential to affect hydroelectric energy production at the Bureau of Reclamation's Green Mountain Reservoir, which is located downstream from Dillon Reservoir. Denver Water is required to compensate the Bureau of Reclamation for hydroelectric production that may be lost as a result of those diversions. Compensation for lost production can take the form of providing equivalent power to the Bureau of Reclamation, providing the dollar value of that lost production, or a combination of the two. The determination of the amount of power owed to the Bureau of Reclamation is made annually by a complex calculation of the hydrologic effect of diversions at Dillon Reservoir. The Bureau of Reclamation's water use agreement for Green Mountain Reservoir requires an annual yield of approximately 154,600 acre-feet of water to Green Mountain Reservoir. In general, Denver Water is required to compensate the Bureau of

Reclamation when the annual yield to the Green Mountain Reservoir is less than 154,600 acre-feet and Denver Water has impacted the annual yield through out-of-priority diversions upstream of Green Mountain Reservoir. In recent years (1986 through 2003), the amount of compensation for lost power production has varied from a low of 2,775 MWh to a high of over 24,900 MWh, with an average value of 11,053 MWh.

As a result of a combination of power purchase agreements used to repay the Bureau of Reclamation and a series of wet years, the Williams Fork Project generated power in excess of the amount owed to the Bureau of Reclamation. The excess power was banked with the Western Area Power Administration (WAPA) and is used to repay the Bureau of Reclamation. The amount of power banked with WAPA was sufficient to allow Denver Water to enter into a 10-year power sales agreement with Tri-State. Power produced by the Project is now sold to Tri-State, and this arrangement will continue through 2006 and possibly beyond. In the future, power generated by the Williams Fork Project will continue to be used both for repayment of the Bureau of Reclamation's lost production and to meet regional energy needs.

According to the WECC 10-Year Coordinated Plan Summary (December 2003), the net energy needed to meet the load demand for RMPA in 2002 was 56.109 billion kWh, and the peak demand and annual energy requirements for the region over the 10-year period between 2003 and 2012 are expected to grow at annual rates of 1.7 percent and 1.2 percent, respectively. The load growth for Tri-State's members is expected to exceed 100 MW per year, even with the addition of 400-MW coal-fired generation expected to come on line in 2006.

Production of hydroelectric power by the Williams Fork Project displaces the need for an equivalent amount of power generated by other power plants, thereby eliminating air emissions from combustion sources and creating an environmental benefit. In the WECC region where the Williams Fork Project is located, the capacity mix consists mainly of fossil-fueled sources. The Project helps reduce the need for existing and planned non-renewable, fossil-fueled electric power generation that creates air pollution by producing nitrogen oxides (NO_x), sulfur oxides (SO_x), and carbon dioxide (CO₂), which is a greenhouse gas. Based on its current annual average power production, (10,722 MWh), the Williams Fork Project is estimated to displace coal-fired NO_x, SO_x, and CO₂ emissions of 15 tons per year (tpy), 39 tpy, and 9,915 tpy, respectively.

Hydroelectric power generation currently makes up approximately 34 percent of the total generation capacity in the WECC region. Generation from the Williams Fork Project helps meet the growing demand and contributes to the diversification of the generation mix in the WECC region in a manner that is beneficial to regional air quality.

III. PROPOSED ACTION AND ALTERNATIVES

Denver Water filed an application for a new license for the Williams Fork Project with the FERC in December 2004. Denver Water is seeking a small hydroelectric power project exemption on the basis of proposing to increase the Williams Fork Project generating capacity from 3.15 MW to approximately 3.65 MW. Denver Water owns all lands within the FERC project boundary necessary for continued operation of the Project.

If the FERC determines that the Williams Fork Project does not meet the requirements for an exemption, Denver Water requests that the same application be reviewed to issue a new license that allows Denver Water to continue operating the existing turbine-generator at a capacity of 3.15 MW.

A. Existing Project

1. Project Facilities

The Williams Fork Project is located on the Williams Fork River approximately 2 miles upstream of its confluence with the Colorado River in Grand County, Colorado (Figure 1). The Williams Fork River drainage basin is 230 square miles in area and ranges in elevation from about 7,800 feet to 13,000 feet. Williams Fork Dam impounds the Williams Fork River near the north end of the Williams Fork River drainage basin, forming Williams Fork Reservoir. When the water surface is at the top of the spillway gate (elevation 7,811 feet MSL), the reservoir reaches its maximum depth of 181 feet, its maximum surface area of approximately 1,628 acres, and its maximum storage capacity of 96,822 acre-feet of water. The reservoir has approximately 15 miles of shoreline at water surface elevation 7,811 feet.

The original 100-foot-high concrete gravity dam and the resulting water supply reservoir were completed and put into use in 1941. Construction of a new concrete thin-arch dam took place between 1956 and 1959, bringing the dam to a height of 209 feet, with a dam crest length of 670 feet and a dam crest width of 10 feet at elevation 7,814 feet. Hydroelectric facilities were added at this time, with construction of the powerhouse and installation of the turbine and associated generating equipment. In addition to the concrete dam, a 2,000-foot long earth dam (the west dike) closes off a low saddle on the west side of the reservoir.

Two separate intakes, one for the powerhouse penstock and one for the river outlet works, are used at the Williams Fork Dam. A reinforced-concrete penstock intake for the powerhouse is located on the upstream face of the dam 115 feet below the maximum water surface elevation of 7,811 feet. The penstock intake is protected by steel, vertical-bar, multi-panel trashracks with a vertical bar clear space of 1-5/8 inches. A 7-foot by 5-foot fixed-wheel penstock gate releases water into a 66-inch-diameter steel penstock that extends from the intake down to the powerhouse. The river outlet works intake, also on the upstream face of the dam, is located approximately 175 feet deep near the bottom of the reservoir (7,636 feet). It is protected by a steel, vertical-bar trashrack with a vertical bar clear space of 5 inches. This intake is provided with a vertically positioned slide gate that is normally open, but it can be manually closed from a gate-lift platform on the face of the dam when the reservoir elevation is below 7,705 feet. A 54-

inch-diameter steel embedded pipe conveys water to the outlet works valves. Outlet releases are controlled at the downstream face by valves.

The spillway is a gated, three-bay, overflow section that allows regulation of Williams Fork Reservoir between elevations 7,803 (spillway crest) and 7,811 feet (top of spillway gate). Three radial gates located at the left, center, and right positions are driven by an electric hoist. Each spillway gate can be operated at the crest either manually or electrically, as well as by remote control from the powerhouse. The spillway gates are protected from debris by trashracks installed in front of the gates.

The periodic safety inspection report submitted to the FERC in 1999 found the spillway to have adequate capacity to pass the probable maximum flood (PMF) based on site-specific meteorology (flood peak of 16,855 cubic feet per second [cfs] and a 50-hour volume of 14,097 acre-feet). When passing the PMF, the concrete dam would have 2.6 feet of freeboard, while the west dike would have 4.6 feet of freeboard.

The project powerhouse is a multi-level concrete structure approximately 66-feet-long by 30-feet-wide by 60-feet-high located at the downstream toe of the dam. The powerhouse houses a vertical-axis turbine generator and electrical switchgear and controls. The turbine-generator operates off the self-contained penstock that runs through the dam. The powerhouse contains one vertical-axis, 4,250-horsepower (Hp), Francis turbine that drives a generator. The turbine is controlled with a Woodward gate, shaft-type governor operating with a hydraulic oil pump system. The turbine is connected directly to a vertical-shaft, air-cooled generator. The generator is rated at 3,158 KVA at a Power Factor of 0.95 and under a net head of 192 feet. Controls for the generator reside inside the powerhouse where they are interfaced with supervisory equipment to provide local manual, local automatic, and remote control through a computerized graphical user interface. Power plant production capacity is 3.15 MW.

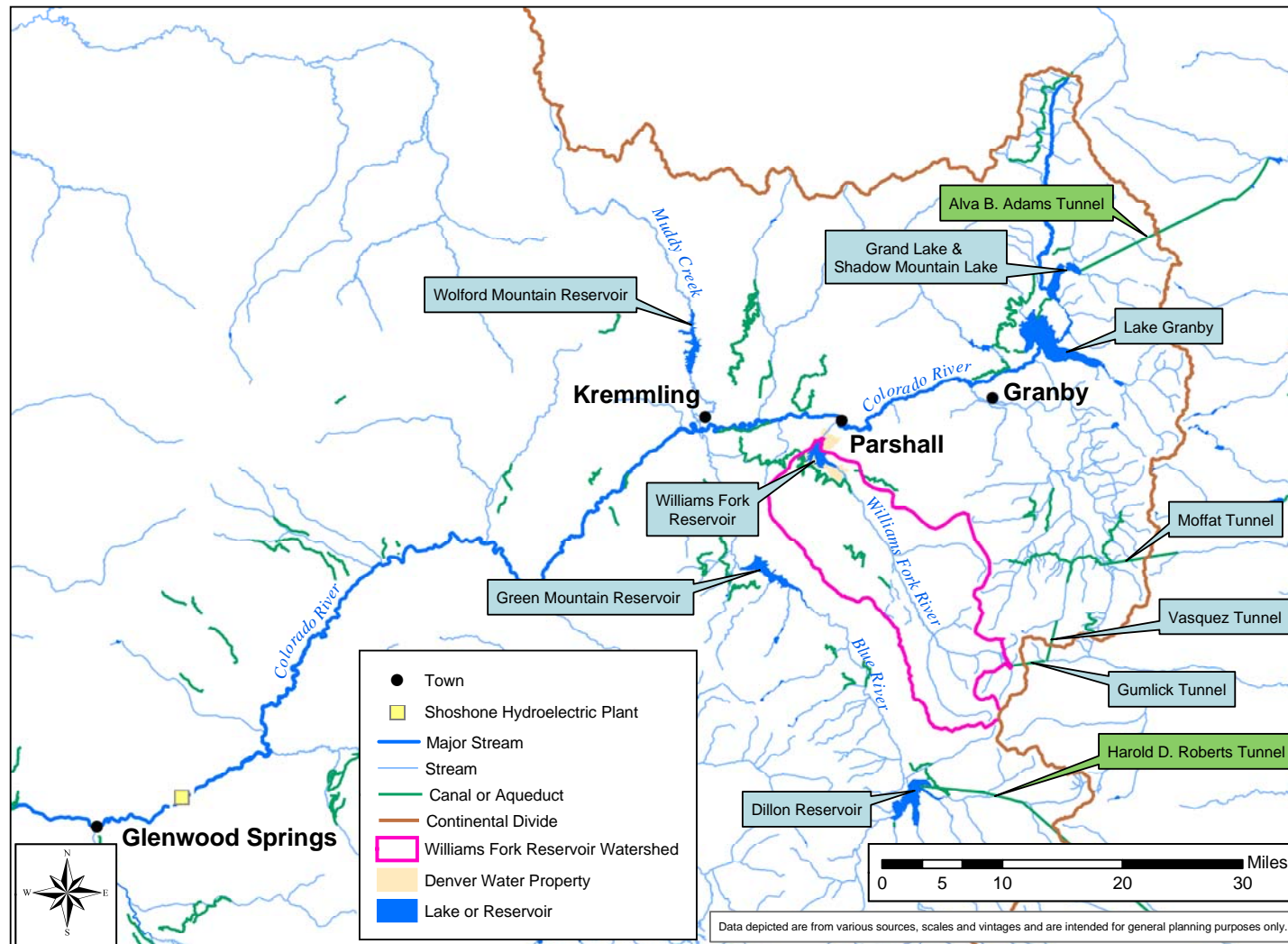
At a maximum head of 192 feet, the turbine discharges 220 cfs. The powerhouse and river outlets combine in the tailrace, which discharges into the Williams Fork River.

A 14/25-KVA transmission line carries the energy produced by the Williams Fork Project 2 miles to the Bureau of Reclamation's line between the Green Mountain Reservoir Power Plant and the Granby pump station. The transmission line is owned by Mountain Parks Electric, Inc., and, at different times, transmits power both to and from the Project. The transmission line is not under FERC jurisdiction and, consequently, is not part of the Williams Fork Project or included in the FERC project boundary. A portion of the power produced by the Williams Fork Project is used for on-site station service requirements.

2. Project Operation

The Williams Fork Project supplies replacement water to the Colorado River in support of Denver Water's municipal water supply operations. To meet downstream senior water rights requirements, the reservoir replaces water diverted by Denver Water's transmountain diversions from the upper Colorado River system (Figure 2). The FERC does not approve, authorize, or otherwise regulate any diversion associated with Denver Water's municipal collection system.

Figure 2. Denver Water's Colorado River Water Collection System



Williams Fork Reservoir stores most water during the high spring runoff, typically from about mid-April through mid-July. Otherwise, regional streamflows are generally relatively low, which results in low inflows to Williams Fork Reservoir during the remainder of the year. Seasonally low inflows also trigger “calls” on the Colorado River and its tributaries by downstream senior water rights holders. To enable Denver Water to continue diverting at its other facilities, water stored in Williams Fork Reservoir is used to replace water being diverted through Denver Water’s transmountain diversions. Water stored in Williams Fork Reservoir is also used to replace water owed to Green Mountain Reservoir when Green Mountain Reservoir does not fill due to diversions at Dillon Reservoir and the Roberts Tunnel. Additionally, Denver Water must provide a minimum flow of 15 cfs or inflow to the reservoir, whichever is less, from Williams Fork Reservoir year-round to satisfy its license conditions.

Williams Fork Reservoir operation necessarily places a high priority on achieving full pool conditions each spring so that this water will be available to respond to “calls” on the Colorado River during low-flow periods and to generate power from these releases. Some of the main factors that affect filling of the reservoir include:

- The amount of runoff that occurs in a given year or a series of years;
- The volume of releases required for water supply purposes; and
- The length of time that downstream senior water rights are in priority.

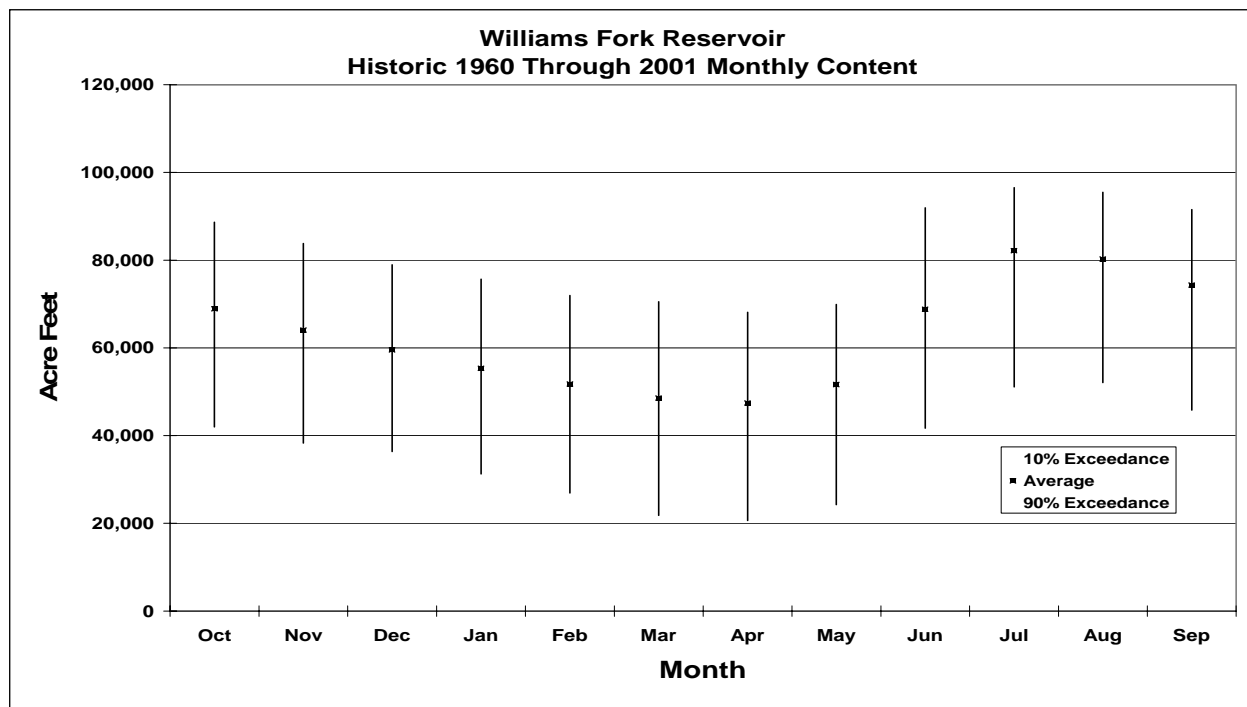
Because the reservoir serves municipal water supply needs in addition to power generation, project operations have not typically resulted in large fluctuations in reservoir levels or outflows to the Williams Fork River to maximize power production.

Denver Water uses the power facilities at the dam to generate as much power as possible from water being released from the reservoir for water supply purposes. Each year when snowpack data become available, beginning in January, the Denver Water staff makes initial calculations of the probability that Williams Fork Reservoir will fill during the coming runoff season. Snowpack conditions are recorded and tracked throughout the winter and spring. Denver Water only draws the reservoir down in the spring as a result of careful consideration of climatic and snowmelt conditions and does not operate to achieve a specific targeted drawdown pattern. If calculations indicate that the reservoir will likely fill and subsequently spill in the coming runoff season, then additional water may be released to generate additional power. If calculations indicate that the reservoir might not fill, no water is released for additional power generation.

To minimize the potential for ice to damage the spillway gates, the reservoir is lowered to the bottom of the spillway gate (elevation 7,803 feet, 84,565 acre-feet) between the end of November and mid-December.

Denver Water’s Planning Division manages the operation of Williams Fork Reservoir and maintains the operation records, including daily elevation, content, inflow, and outflow. Figure 3 shows the mean monthly content of Williams Fork Reservoir for Water Years 1960 through 2001. Water years represent the period October 1 through September 30. Additional details of current Williams Fork Project hydrology are provided in Section V.C.2.

Figure 3. Historical Monthly Content of Williams Fork Reservoir



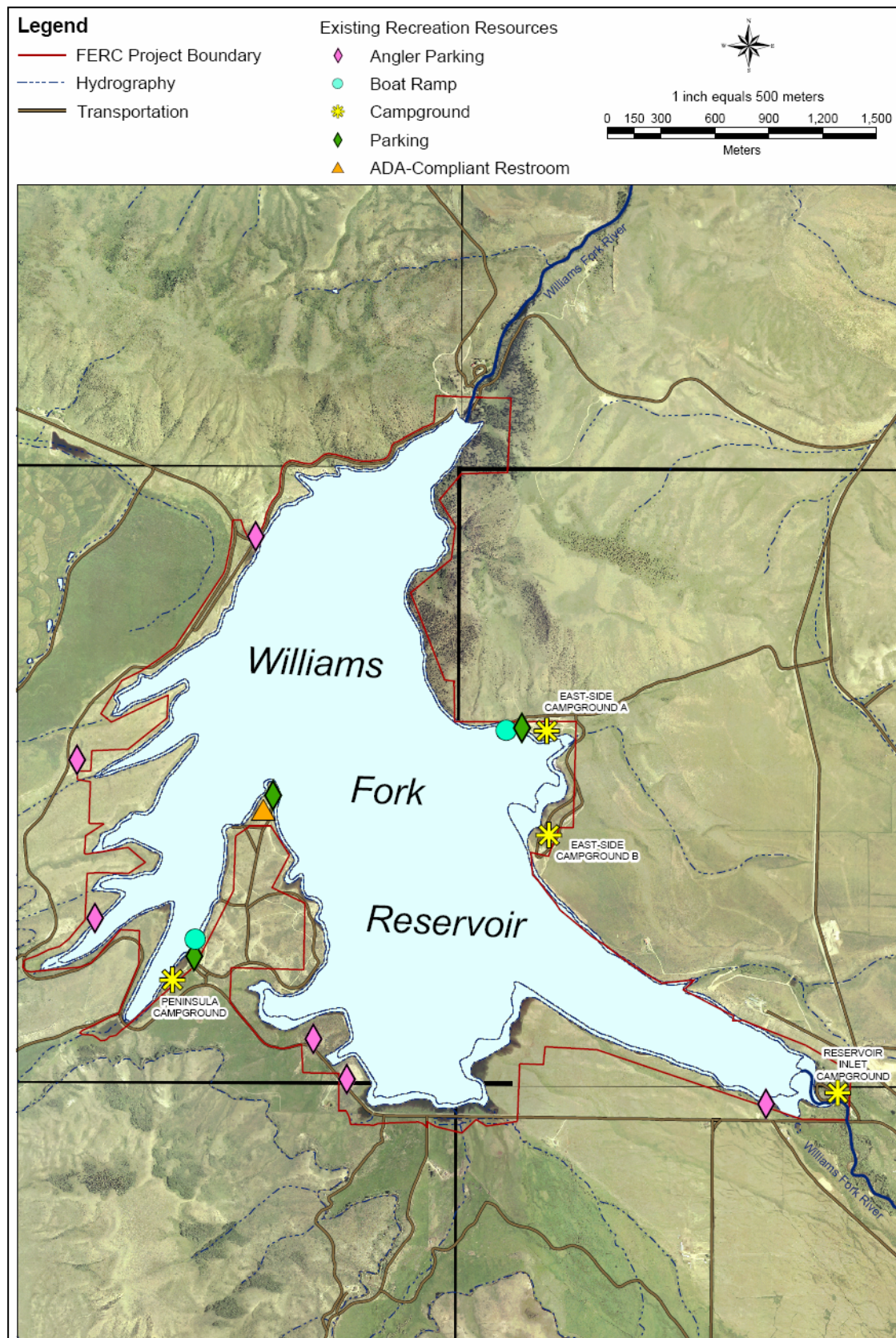
3. Environmental Measures

Past environmental measures at the Williams Fork Project have focused primarily on recreation enhancements. Denver Water has established three campgrounds at the reservoir, with 47 automobile-accessible campsites, two boat launch sites, several picnic areas, fishing access, parking, vault toilets, fire rings, and trash receptacles (Figure 4). Dispersed primitive-style camping also occurs around the reservoir.

The reservoir supports a population of kokanee salmon, and the Colorado Division of Wildlife (CDOW) conducts spawn-taking operations at the reservoir to support hatchery production of kokanee salmon. Denver Water cooperates with CDOW during spawn-taking and fish population sampling by 1) informing CDOW of hydrologic and operating conditions at the Project that could affect their activities, 2) coordinating operations to minimize impacts on CDOW activities, and 3) occasionally providing manpower assistance. Denver Water also releases a minimum flow of 15 cfs or inflow to the reservoir, whichever is less, from the reservoir to the Williams Fork River.

Denver Water participates in CDOW's Middle Park Sage Grouse Conservation Plan, a plan that encourages habitat conservation management for the sage grouse on public and private lands (CDOW 2001a). Denver Water voluntarily manages its property surrounding Williams Fork Reservoir in accordance with the plan.

Figure 4. Williams Fork Project Recreation Facilities



Denver Water has signed a Recovery Agreement with the U.S. Fish and Wildlife Service (USFWS) that provides for mitigation of effects on federally endangered fish species, pursuant to Section 7 of the Endangered Species Act (ESA) for all of Denver Water's historical depletions to the upper Colorado River (USFWS 2000). Under the Recovery Agreement, Denver Water has committed to generally supporting the *Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin* (USFWS 1987), including implementation of specific recovery elements in the program. By having a signed Recovery Agreement, Section 7 consultation under the ESA for depletion effects from the Williams Fork Project will be governed by the *Final Programmatic Biological Opinion for Bureau of Reclamation's Operations and Depletions, Other Depletions, and Funding and Implementation of Recovery Program Actions in the Upper Colorado River above the Gunnison River* (USFWS 1999).

Denver Water has undertaken a large-scale erosion control effort to remediate an extensive, seriously eroded site along the southeast shoreline of the reservoir. The site has in the past been and is currently subject to bank erosion from normal reservoir wave action, and the erosion control project was initiated as needed project maintenance. The erosion control work involves reducing the slope of a near-vertical, 10- to 15-foot-high bluff along approximately 3,000 feet of shoreline. The erosion control effort is in temporary abeyance as a result of archaeological site recovery of a recently discovered cultural resources site located at the top of the bluff (see following paragraph). Denver Water intends to resume erosion control activities during the spring/summer of 2005. Denver Water will dispose of the spoils and reclaim and revegetate the affected area.

Denver Water conducted a cultural resources survey of the Williams Fork Project during the summer of 2003 to inventory and assess the significance of any cultural resources relative to National Register of Historic Places (NRHP) eligibility. One newly discovered archaeological site, which the survey recommended as being eligible for listing, is located above the area in which Denver Water was engaged in shoreline stabilization work (see above). Upon discovery of the site, Denver Water realized that further erosion control activities would likely result in adverse impacts to this eligible historic resource and discontinued further erosion control work near the site. However, without the erosion control activities, the historic property would almost surely be lost to eventual erosion of the reservoir bank. Denver Water implemented an archeological site recovery program during the late summer/fall of 2004, thereby mitigating potential adverse impacts from the erosion control activities or, in their absence, from natural erosional processes through data recovery at the site.

B. Denver Water's Proposed Action

1. Project Facilities

Denver Water plans to continue operating the existing 3.15-MW hydroelectric power unit without modifications to the existing use and operation of the Williams Fork Reservoir. Additionally, Denver Water plans to install a small new hydroelectric power unit that would increase generating capacity at the Williams Fork Project.

The proposed small unit will have a nominal generating capacity of approximately 500 kW (0.5 MW). The unit will be designed to capture flows that are lower than required to run the

existing 3.15-MW unit. The existing 3.15-MW unit has a hydraulic range of approximately 70 cfs to 220 cfs. The new unit is expected to have a hydraulic range of approximately 15 to 70 cfs. Thus, the effective flow range over which power could be generated would be approximately 15 cfs to 290 cfs, depending on head (reservoir elevation). The new unit would operate alone when available flows are too low to operate the 3.15-MW unit and would operate along with the existing unit when flows above the operating range of the 3.15-MW unit are available. Thus, it would allow power production from lower flows and from excess higher flows, neither of which are currently captured by the existing unit.

The new generating unit would be installed adjacent to the existing powerhouse within the facility's previously developed footprint. Installation of the new generating unit constitutes the only substantive construction activity associated with the Proposed Action. Flow for the new unit would be diverted from the existing 66-inch-diameter penstock between where it exits the downstream face of the dam and where it enters the existing turbine inlet. The new turbine would discharge into the same tailrace as the existing turbine.

The addition of the new small unit is expected to have minimal, if any, impact on the existing Project. Operations at the reservoir would not be changed to increase power production, rather the additional unit would make more efficient use of the hydroelectric potential of water being released at the reservoir for other purposes.

To summarize, Denver Water's Proposed Action consists of the following activities:

- Maintaining the existing Williams Fork Dam and Williams Fork Reservoir;
- Continuing to generate power with the existing 3.15 MW of generating capacity and installing a new small hydroelectric power unit to increase generating capacity by approximately 0.5 MW;
- Modifying the existing penstock and the existing river outlet works area to accommodate the new power unit;
- Implementing the environmental measures listed in Section III.B.3.

2. Project Operation

Operation of the Williams Fork Project is directly related to the volume and timing of diversions from the Colorado River system to satisfy Denver Water's municipal water supply demands. Future changes in these diversions could result in changes to Williams Fork Project hydrology up to its full or maximum use for replacement water. During scoping for the relicensing of the Williams Fork Project, several entities requested that Denver Water evaluate the Project considering its maximum use for replacement water, since such operation is likely to occur in the near future.

Denver Water has evaluated full use of Williams Fork Reservoir to store and release water annually consistent with its water supply purposes. Modeling of current and future hydrology based on historical inflows and current and anticipated future demand indicates that the future hydrology will not be very different from current hydrology (Denver Water 2004b).

Details of the modeling approach and results of the hydrologic modeling are provided in Section V.C.2. Transition from the current hydrology to the future hydrology will occur gradually as water supply demand increases.

The future hydrology (full-use hydrology) is based entirely on the Project's operation to supply replacement water for Denver Water's water supply purposes. It is independent of the Project's future power production capability or on the type of hydropower license under which operation will occur. Therefore, the future hydrology would occur under the Proposed Action, the Action Alternative, and the No-Action Alternative.

3. Proposed Environmental Measures

As part of the FERC application for exemption from licensing, Denver Water proposes the following environmental protection measures and environmental enhancements for the Williams Fork Project.

Geology and Soils

- Complete erosion control work along the southeastern shoreline of the reservoir using appropriate BMPs to minimize sedimentation, dispose of existing spoil piles, and revegetate the affected area;
- Design and implement riverbank erosion control measures at the Williams Fork River inlet to the reservoir;
- Institute selective road closures to curtail upland erosion related to dispersed recreation at the Project;

Fisheries

- Continue to release a minimum flow of 15 cfs or inflow to the reservoir, whichever is less, from Williams Fork Reservoir at all times to ensure protection of the aquatic resources of the downstream Williams Fork River;
- Provide releases from the reservoir according to proposed ramping rate guidelines to protect the downstream fishery resource from excessive short-term fluctuations and to provide for public safety in the downstream river reach;

Terrestrial Resources

- Control noxious weeds at public access sites; undertake localized revegetation activities to restore vegetative cover, minimize erosion of bare soils, and prevent reinvasion of these public areas by weeds, as needed;
- Periodically reevaluate noxious weed populations not currently considered to be a resource risk to assess the need for implementing weed control measures;

- Continue to participate in the Middle Park Sage Grouse Conservation Plan and attempt to manage Denver Water property within the FERC project boundary consistent with the plan;

Threatened and Endangered Species

- Continue to support implementation of the Colorado River Recovery Program for endangered Colorado River fish species under the Recovery Agreement with USFWS;

Cultural Resources

- Avoid disturbance of all NRHP-eligible and potentially eligible historic sites;

Recreation

- Rehabilitate and convert the reservoir inlet campground site for day-use access only;
- Create additional campsites at the east-side campground to compensate for loss of campsites in the conversion of the reservoir inlet campground to day use only; site campsites away from adjacent private property;
- Add new ADA (Americans with Disabilities Act)-compliant restrooms to the east-side and peninsula campgrounds;
- Post signs restricting motorized travel to existing roadways to limit further proliferation of informal road and dispersed shoreline development; signs will encourage responsible use of natural resources at the Project;
- Continue to maintain recreation facilities at the Project, including providing winter access for ice fishing on Williams Fork Reservoir.

These measures limit the environmental effects of future project operations and would protect and enhance soils and geology, water quality, fisheries, vegetation, and wildlife including endangered species, aesthetics, recreation, and cultural resources in the project area.

4. Proposed License Exemption

An increase in generating capacity would allow Denver Water to operate the Williams Fork Project under a license exemption. With the addition of the new turbine-generator unit, the total combined capacity of the Williams Fork Project would still meet the “5 MW or less” criterion for a small hydroelectric power project exemption.

C. Action Alternative

An alternative to Denver Water’s Proposed Action would be to not install additional generating capacity at the Williams Fork Project. Under this Action Alternative, the FERC

would issue a new license (relicense the Project), and Denver Water would continue operating the existing 3.15-MW hydroelectric power unit without any modification of facilities or operations at the Williams Fork Reservoir.

As indicated for the Proposed Action, future project operation and hydrology will depend on future demand for replacement water within Denver Water's water supply system and not on its hydroelectric component or on the type of hydropower license under which it will operate. Therefore, the same modeled future hydrology described in Section V.C.2 would apply to the Action Alternative and to operation of the Williams Fork Project under a new license.

Denver Water would offer the same environmental enhancements under a new license as are proposed for the license exemption.

No comments or requests by the participating parties recommended other alternatives to the Proposed Action. Alternative measures arising from the issues defined in scoping are analyzed in this PDEA, as appropriate.

D. No-Action Alternative

Under the No-Action Alternative, the Williams Fork Project would continue to operate under the terms and conditions of its existing license, and no new environmental measures would be implemented.

As indicated for the Proposed Action, future project operation and hydrology would depend on future demand for replacement water within Denver Water's water supply system and not on the Project's hydroelectric component or whether the FERC would issue an exemption or a new license for the Project. Therefore, the same modeled future hydrology described in Section V.C.2 would apply to project operation under the No-Action Alternative.

The No-Action Alternative provides the baseline conditions against which the potential impacts of the Proposed Action and alternatives will be assessed.

E. Alternatives Considered but Eliminated from Detailed Study

The following alternatives have been eliminated from detailed study.

1. Federal Government Takeover

Denver Water does not consider federal takeover to be a reasonable alternative to exemption or relicensing of the Williams Fork Project. As a municipal entity, Denver Water is not subject to Section 14 of the FPA. Federal takeover of the Project would require congressional approval. While that fact alone would not preclude further consideration of this alternative, there is currently no evidence indicating that federal takeover should be recommended to Congress. Additionally, Denver Water intends to seek an exemption based on increased generating capacity or to relicense the existing Project, thereby eliminating any reason for federal takeover for power generating purposes.

2. Nonpower License

Denver Water does not consider a nonpower license to be a reasonable alternative because it would not achieve a primary project purpose of generating power. Power has been generated at the Project for the past 50 years, and Denver Water plans to continue generating power at the Williams Fork Project under either an exemption or a new license. Denver Water is not seeking a nonpower license.

3. Project Decommissioning

Project decommissioning would involve denial of the license application and surrender or termination of the existing license, with any appropriate conditions. This alternative would also not achieve a primary project purpose of generating power. Denver Water has no basis for recommending decommissioning of the Project. The loss of power generation to the grid system would require additional power sources to be developed, which would likely result in more adverse environmental impacts than Denver Water's Proposed Action. Thus, decommissioning is not a reasonable alternative to issuing an exemption from licensing or a new license for the Project with appropriate mitigation and enhancement measures.

IV. CONSULTATION AND COMPLIANCE

A. Consultation

1. Correspondence

Copies of correspondence with consulted resource agencies, Indian entities, and the public relevant to Denver Water's application for an exemption from licensing or for a new license for the Williams Fork Project are included in Appendix A. The correspondence includes written communication and FERC notices and is organized in chronological order.

2. Application Consultation

2001

Denver Water initiated activities that will allow for the continued operation of the Williams Fork Project on July 2, 2001, by providing notification to the FERC that Denver Water intended to file an application either for a new license for the Project or for an exemption from licensing. The notification provided pertinent information about the Project, including the expiration date of the current license (December 31, 2006) and the intended filing date (on or before December 31, 2004). Denver Water's notice of intent was filed by the FERC on July 3, 2001, and the FERC's public notice thereof was published on July 25, 2001.

Throughout the summer of 2001, Denver Water provided local public notice of its intent to relicense the Williams Fork Project by posting signs and flyers in nearby towns and at Williams Fork Reservoir, sending letters and notices to Grand County and Summit County officials and other individuals and organizations, placing notices in a number of Grand County and Summit County newspapers, and providing a press release to all Grand County and Summit County radio stations and newspapers, as well as to the Denver Post and the Rocky Mountain News (see Attachment 3 to letter from Denver Water to the FERC of April 17, 2002).

2002

On March 8, 2002, Denver Water sent a letter to various federal agencies, state agencies, local agencies, and special interest groups (Participating Parties) stating its intent to use the ALP for the relicensing/exemption application for the Williams Fork Project (see Attachment 4 to letter from Denver Water to the FERC of April 17, 2002). Denver Water also provided the Participating Parties with a Communications Protocol designed to satisfy the FERC's *ex parte* rules and to provide guidelines for communication and coordination among the Participating Parties involved in preparation of the Preliminary Draft Environmental Assessment (PDEA) for the licensing action. The Participating Parties were asked to return a form accepting the ALP and the Communications Protocol to Denver Water, along with any comments or concerns, by March 18, 2002.

Acceptance forms and/or letters of comment were received from 21 Participating Parties (see Attachment 1 to letter from Denver Water to the FERC of April 17, 2002). Additional

acceptance forms were received after Denver Water had submitted its request to the FERC for approval to use the ALP, and these were transmitted to the FERC on May 10, 2002.

On April 17, 2002, Denver Water informed the FERC that Denver Water and the Participating Parties had agreed to use the ALP and the Communications Protocol. Denver Water formally requested the FERC's approval to use the ALP for the relicensing or exemption application/environmental analysis process and also requested the FERC's approval of the Communications Protocol. Attachments to that letter provided documentation of consultation as follows: Attachment 1 – Returned acceptance forms/letters from Participating Parties and Denver Water responses to letters and comments; Attachment 2 – Communications Protocol; Attachment 3 – Public notice efforts; Attachment 4 – Denver Water's letter to Participating Parties; Attachment 5 – Project mailing list. Denver Water's request to use the ALP was filed by the FERC on April 24, 2002, and the FERC's public notice thereof was published on May 9, 2002.

In response to comments from American Whitewater and Colorado White Water Association (the Whitewater Groups) dated March 25, 2002, and April 16, 2002, Denver Water revised the Communications Protocol to clarify its intent to provide written documentation of public meetings. The revised Communications Protocol was provided to the Participating Parties and the FERC by letters of May 7, 2002, and May 10, 2002, respectively. The Whitewater Groups also filed "comments and protest" on Denver Water's notice to use the ALP with the FERC on April 16, 2002.

By letter order dated June 21, 2002, the FERC approved Denver Water's request to follow the ALP in accordance with the Commission's Regulations for Licensing Hydroelectric Projects at 18 CFR § 4.34(I).

2003

Denver Water distributed its Initial Information Package (IIP) and Scoping Document 1 (SD1) for the Williams Fork Project to the Participating Parties on April 21, 2003, outlining subject areas to be addressed in the applicant-prepared environmental assessment. The IIP and SD1 were transmitted to the FERC for filing on April 23, 2003. SD1 provided a schedule for a site visit of the Williams Fork Project and public Scoping Meetings; the schedule was subsequently revised by letter to the parties of May 9, 2003. Notices of the Scoping Meetings were also run during the week of May 19, 2003, in the Grand County Daily, the Middle Park Times, the Winter Park Manifest, and the Summit Daily News, as well as the Denver Post and the Rocky Mountain News. On May 12, 2003, the FERC published notice of Denver Water's intention to conduct the site visit, to hold the combined initial information and scoping meetings, and to solicit scoping comments for the applicant-prepared environmental assessment.

Denver Water conducted the site visit of the Williams Fork Project for interested parties on June 4, 2003. The group drove around the perimeter of Williams Fork Reservoir, stopping at various recreation sites and at the dam. On June 5, 2003, Denver Water and the FERC staff conducted two public Scoping Meetings in Kremmling, Colorado, to solicit comments and recommendations regarding the Williams Fork Project. The Scoping Meetings were documented by a court reporter. The sign-up sheets from the scoping meetings and the site visit, along with various handouts from the Scoping Meetings, were provided to the FERC staff by e-mail of June

11, 2003. Transcripts of the Scoping Meetings were transmitted to the FERC on August 12, 2003, for filing.

In addition to comments provided at the Scoping Meetings, Denver Water subsequently received written scoping comments from the following entities.

Entity	Date of Letter
U.S. Bureau of Reclamation	June 6, 2003
U.S. Fish and Wildlife Service	June 10, 2003
Colorado Trout Unlimited	July 15, 2003
Colorado Division of Wildlife	July 17, 2003
Middle Park Water Conservancy District	July 23, 2003
Colorado River Water Conservation District	August 4, 2003
Grand County Board of Commissioners	August 4, 2003

Copies of these comment letters are included in Appendix A

2004

Denver Water issued its Scoping Document 2 (SD2), which included responses to the scoping comments provided at and subsequent to the Scoping Meetings, on April 14, 2004.

In conjunction with its issuance of SD2, Denver Water distributed the Environmental Study Plan for the Williams Fork Project soil erosion, noxious weed, cultural resources, wildlife habitat, and recreation surveys on April 14, 2004. The results of the soil erosion, noxious weed, and wildlife habitat studies were distributed on June 2, 2004. Because the cultural resources report contains sensitive information about cultural resource sites and locations, the report was not released to the public. The recreation survey report was used to develop a Recreation Management Plan for the Williams Fork Project under a license exemption or a new license.

Denver Water distributed a draft Preliminary Draft Environmental Assessment (PDEA) to the Participating Parties for review during the week of October 11, 2004. The Williams Fork Recreation Plan was transmitted to the Participating Parties at the same time. The draft PDEA was submitted to the FERC for review on October 19, 2004. Recipients were asked to submit comments on the PDEA to Denver Water by November 19, 2004. Denver Water received written comments from the following entities.

Entity	Date of Letter
Grand County Board of Commissioners	November 18, 2004
Middle Park Water Conservancy District	November 18, 2004
Colorado Trout Unlimited	November 19, 2004

Copies of these comment letters are included in Appendix A. Denver Water's responses to the individual comments are provided in Appendix B.

Denver Water finalized the PDEA and submitted it to the FERC as part of the application for exemption from licensing or for a new license in December 2004. Copies of the application are being provided to the entities listed in Volume I of the license application.

B. Compliance

1. Correspondence

Copies of correspondence with resource agencies relevant to compliance with a number of specific regulations related to Denver Water's application for an exemption from licensing or for a new license for the Williams Fork Project are included in Appendix A along with other correspondence related to the application process itself. Correspondence in Appendix A is organized in chronological order

2. Clean Water Act Water Quality Certification

On March 23, 2004, Denver Water applied to the Water Quality Control Division of the Colorado Department of Public Health and Environment (CDPHE) for water quality certification under Section 401 of the Clean Water Act. The CDPHE issued Section 401 Water Quality Certification (Colorado 401 Certification No. 2987) for the Williams Fork Project on June 9, 2004, with no special conditions. The Section 401 Water Quality Certification was transmitted to the FERC by letter of July 28, 2004.

Although Denver Water would not be required to seek Section 401 Water Quality Certification under the Proposed Action (license exemption), it would be required to receive such certification under the Action Alternative (project relicensing).

3. Endangered Species Act Section 7 Consultation

By letter of January 22, 2004, Denver Water requested from the USFWS a list of federally listed and proposed species that should be addressed to complete ESA Section 7 consultation for the Williams Fork Project. The USFWS provided its list on February 24, 2004, indicating that one plant, one bird, and four fish species that are federally listed as threatened or endangered and one amphibian that is a federal candidate for listing might occur in the project area or be affected by project operations.

In response to Denver Water's April 23, 2004, request, the FERC designated Denver Water as a non-federal representative for the purpose of conducting informal Section 7 consultation under the ESA on May 4, 2004. Denver Water completed a Biological Assessment (BA) for the Williams Fork Project, which determined that depletions to the Colorado River system constitute the only aspect of the Project that could have an effect on listed species (Steigers 2004e). The BA concluded that future operation of the Project "may affect, and likely will adversely affect" individuals, populations, and critical habitats of the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub. Because historical depletions to the Colorado River may impact prey fish species in the Colorado River, the BA also concluded that the Williams Fork Project "may affect, but is not likely to adversely affect" bald eagles.

Water depletions attributable to operation of the Williams Fork Project are considered to be "continuing, historical depletions" for purposes of Section 7 consultation under the ESA. Mitigation of effects on federally endangered fish species for all of Denver Water's historical depletions to the upper Colorado River has been provided through a Recovery Agreement between Denver Water and the USFWS (see Section III.A.3 and Section V.C.5).

Denver Water submitted a draft Biological Assessment (BA) for the Williams Fork Project to the USFWS for review on July 28, 2004. The USFWS indicated its concurrence with the findings of the draft BA by letter of September 23, 2004. As the lead federal agency, the FERC will complete the Section 7 process with the USFWS after Denver Water's application is filed with the FERC.

4. Federal Power Act Section 18 Prescriptions

Section 18 of the FPA, 16 U.S.C. §811, states that the Commission shall require construction, maintenance, and operation by a licensee of such fishways as the Secretaries or Commerce and Interior may prescribe. If the FERC processes Denver Water's application as a relicense application, the FERC would provide the opportunity for the applicable agencies to file Section 18 fishway prescriptions.

5. Federal Power Act Section 30(c) Conditions

Under the Proposed Action (license exemption), fish and wildlife agency recommendations for future operation of the Project would be mandatory conditions under Section 30(c) of the FPA. If the FERC determines that the Williams Fork Project meets the requirements for an exemption, the CDOW and USFWS will have the opportunity to file Section 30(c) conditions for the Project.

6. Federal Power Act Section 10(j) Recommendations

Under the provisions of the FPA, each hydroelectric license issued by the Commission shall include conditions based on recommendations provided by federal and state fish and wildlife agencies for the protection, mitigation, or enhancement of fish and wildlife resources affected by the project.

Section 10(j) of the FPA states that whenever the Commission believes that any fish and wildlife agency recommendation is inconsistent with the purposes and the requirements of the FPA or other applicable law, the Commission and the agency shall attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of the agency.

If the FERC processes Denver Water's application as a relicense application, the FERC would provide the opportunity for fish and wildlife agencies to file recommendations for the Project.

7. National Historic Preservation Act Section 106 Compliance

A cultural resources survey of the Williams Fork Project was conducted during the summer of 2003 to inventory and assess the significance of any cultural resources relative to NRHP eligibility. The new survey investigated areas within the FERC project boundary that had not been studied during a 1995 survey. Thirteen new prehistoric sites were located, and five previously recorded sites were revisited and re-evaluated. An additional five sites that lie within the FERC project boundary but had previously been determined to be not eligible were not investigated further. Of the 18 sites evaluated, ten were recommended as not eligible, five were recommended as potentially eligible (need data), and three were recommended as eligible for inclusion on the NRHP (MAC 2004a).

In response to Denver Water's April 23, 2004, request, the FERC designated Denver Water as a non-federal representative for the purposes of conducting Section 106 consultation under the National Historic Preservation Act (NHPA) on May 6, 2004.

Denver Water transmitted the cultural resources survey to the Colorado State Historic Preservation Officer (SHPO) on April 20, 2004, requesting the SHPO's eligibility determinations for the sites. By letter of April 28, 2004, the SHPO concurred with the findings of the cultural resources survey. The cultural resources study was transmitted to the FERC on July 28, 2004. Because the cultural resources report contains sensitive information about cultural resource sites and locations, the report was not released to the public. By letter of December 15, 2004, the SHPO stated that, based on review of the cultural resources survey report and the draft PDEA, the NRHP-eligible and potentially eligible sites will not be affected by on-going activities at the Williams Fork Project, and, therefore, no historic properties will be affected by the federal licensing action (SHPO 2004c).

Denver Water consulted Native American tribes that may place religious or cultural significance in sites or locations that could be affected by FERC reauthorization of the Williams Fork Project. Based on its expression of interest in the Project, the Northern Ute Tribe is considered a consulting party under Section 106 of the NHPA. Denver Water and representatives of the Northern Ute Tribe participated in a site visit to archaeological sites at the Project on August 31, 2004. Based on the site visit and on the fact that continued operation of the Project will not result in impacts to cultural resources, the Northern Ute tribal representatives indicated that they have no specific concerns about the Williams Fork Project (MAC 2004b).

V. ENVIRONMENTAL ANALYSIS

A. General Description of the River Basin

The Williams Fork Project is located on the Williams Fork River approximately 2 miles upstream of its confluence with the Colorado River near the town of Parshall in Grand County, Colorado (Figure 1). The area is approximately 100 road miles west-northwest of Denver on the West Slope of the Rocky Mountains.

The drainage area of the Williams Fork River basin is approximately 230 square miles. The Williams Fork drainage basin ranges in elevation from 13,000 feet at the mountain peaks to 7,800 feet at Williams Fork Reservoir. An average of 30 inches of precipitation falls in the upper Williams Fork basin every year, approximately 60 percent of which eventually ends up as surface streamflow. Nearly all of the streamflow in the Williams Fork drainage basin originates from snowmelt.

The Williams Fork Project is situated within Middle Park, one of several large mountain basins in Colorado's Rocky Mountains. The topography in the project area is generally a rolling landscape, but it does include the northwest-southeast trending Cedar Ridge, which rises to a maximum elevation of 8,400 feet. The Williams Fork River flows through the valley immediately southwest of Cedar Ridge and is now dammed where it flows through a natural gap in the bedrock of the ridge, thereby creating Williams Fork Reservoir. Below the dam, the Williams Fork River flows northeast approximately 2 miles to its confluence with the Colorado River.

Middle Park is characterized by extensive meadows and mountain grasslands and large expanses of sagebrush. Although Middle Park also contains riparian ecosystems dominated by willows, the Williams Fork River itself is generally a high gradient stream with limited floodplain potential for riparian and wetland development. The general vicinity of the Williams Fork Project includes undeveloped U.S. Bureau of Land Management (BLM) lands and irrigated agricultural lands. The Williams Fork Project is located entirely on Denver Water land.

The environmental setting of the Williams Fork Project is described in more detail in the discussions of the affected environment for each resource area, below.

B. Cumulative Effects

According to the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA), an action may cause cumulative impacts on the environment if its impacts overlap in space and/or time with impacts of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions². Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time, including hydropower and other land and water development activities. Water diversions from Colorado River tributaries are one source of cumulative impacts to the mainstem Colorado River.

² (50 CFR §1508.7).

1. Resources That Could Be Cumulatively Affected

Cumulative impacts to the Colorado River may occur as a result of the many existing and proposed water uses in the Upper Colorado River Basin. Resources that may potentially experience cumulative impacts related to operation of the Williams Fork Project in combination with current and pending projects in the upper Colorado River watershed include streamflows, water quality, fisheries, and endangered fish species. These issues are assessed in the respective resource assessments provided in Section V.5.

2. Geographic Scope

The geographic scope of analysis for cumulatively affected resources is defined by the physical limits or boundaries of the Williams Fork Project and the contributing effects from other hydropower and non-hydropower activities within the Upper Colorado River Basin. The geographic scope may vary among different cumulatively affected resources.

At this time, the geographic scope of cumulative effects on streamflows and water temperatures and, consequently, on fisheries is considered to be the Williams Fork River downstream from the Project to the Colorado River and the Colorado River downstream to Kremmling. In addition to the Williams Fork Project, existing projects in the Williams Fork drainage that may contribute to cumulative effects on these resources in the Williams Fork River and thence to cumulative effects in the downstream Colorado River include: 1) diversions to the East Slope from a headwater tributary of the Williams Fork River via the Gumlick Tunnel (Jones Pass Tunnel) and the Vasquez Tunnel and 2) the Henderson Mill, which is located on the upper Williams Fork River.

Existing projects in the Colorado River drainage upstream of the Williams Fork River confluence include diversions to the East Slope from the Fraser River via the Moffat Tunnel and from Grand Lake via the Alva B. Adams Tunnel; Grand Lake, Shadow Mountain Lake, Lake Granby, and Windy Gap Reservoir, all on the Colorado River; Willow Creek Reservoir on Willow Creek; and various municipalities and resort areas along the upper Colorado River that may utilize water from or discharge to the river. Existing projects in the Colorado River drainage that could affect the area downstream of the Williams Fork River confluence to Kremmling include diversions to the East Slope from Dillon Reservoir on the Blue River via the Harold D. Roberts Tunnel; Green Mountain Reservoir on the Blue River; and Wolford Mountain Reservoir on Muddy Creek. In addition, interstate highways and a railroad line parallel the Colorado River along much of this reach.

Full use of Denver Water's water supply system is likely to eventually result in greater quantities of water being diverted through the Moffat Tunnel. A variety of options is currently being explored as part of the Environmental Impact Statement (EIS) process for the Moffat Collection System Project. The Moffat Collection System Project envisions adding approximately 18,000 acre-feet of additional firm yield to Denver Water's water supply resources by 2030. Some or all of the additional yield would likely be developed from Upper Colorado River Basin water, with new storage capacity likely being developed on the East Slope of Colorado.

The Windy Gap Firming Project is also in the EIS process to evaluate several options for the addition of approximately 30,000 acre-feet of firm yield for the Municipal Subdistrict of the Northern Colorado Water Conservancy District. This project may involve the addition of East or West Slope storage reservoirs, and all of this additional yield would be derived from the Upper Colorado River Basin.

The geographic scope of cumulative effects of instream flow depletions on endangered fish species is considered to be the upper Colorado River system from its headwaters to its confluence with the Gunnison River near Grand Junction, Colorado. In addition to the projects in the Colorado River drainage upstream of Kremmling noted above, existing projects in the downstream Colorado River drainage that may contribute to cumulative effects on endangered fish species include the Frying Pan – Arkansas Project and the Homestake Project; various municipalities and resort areas along the Eagle River and the Colorado River; the Yankee Gulch Sodium Minerals Project north of Parachute; and the city of Grand Junction. A railroad line parallels this entire reach, and a major interstate highway (I-70) parallels the Eagle River and then the Colorado River. No specific major new projects are known to be proposed in this area, although the Eagle River valley, in particular, is experiencing rapid growth related to recreational and residential development.

3. Temporal Scope

The temporal scope of Denver Water's cumulative analysis is the past, present, and future actions and the effects on each resource that could be cumulatively affected. For purposes of this analysis, the temporal scope looks 30 years into the future, concentrating on the effect on the resources from reasonably foreseeable future actions. The historical discussion is, by necessity, limited to the amount of available information for each resource.

C. Denver Water's Proposed Action and Action Alternatives

1. Geology and Soils Resources

Affected Environment

Geology

Middle Park is an intermountain basin of the Rocky Mountains bounded by the Front Range to the east, the Gore Range to the west, and the Williams Fork Mountains to the southwest. The topography and geologic structure of Middle Park are highly complex as a result of uplift of the Rocky Mountains during the Cretaceous, volcanism and associated folding and faulting during the Tertiary, glaciation during the Pleistocene, and natural erosional processes (Tweto 1976). The margins of Middle Park are heavily faulted, and, in some places, Precambrian granites have actually been thrust over Cretaceous and Tertiary strata by expansion of the uplifted granite (Chronic 1980).

In the vicinity of the Williams Fork Project, the Williams Fork River is largely entrenched in Pleistocene alluvial deposits. Areas to the west and southeast of the reservoir are characterized by Pleistocene gravel and alluvial terraces, and, in some areas, relatively thick

Holocene deposits of aeolian (wind-blown) sand overlie the thick Pleistocene alluvium. In other areas, a combination of water and wind erosion has scoured much of the Holocene deposition off the terraces and ridges surrounding the reservoir.

Along the reservoir's northern and northeastern margins, Cedar Ridge occurs as a massive Precambrian metamorphic outcrop that was upthrust by folding and faulting. Differential weathering of the gneiss bedrock has left a scattering of rounded boulders and tabular slabs surrounded by gravelly soils. The Williams Fork River valley southwest of Cedar Ridge is thought to be floored at a shallow depth by this Precambrian gneiss.

On the north shoulder of Cedar Ridge, sediments of Jurassic Morrison Formation and Cretaceous Dakota Sandstone are exposed where they unconformably overlie the gneiss bedrock. The Dakota Sandstone is resistant to weathering and forms cliffs that partially bound both sides of the deep canyon below the Williams Fork Dam. Sandstones and siltstones of the Tertiary Troublesome Formation blanket these strata at this location and also dominate the surface geology south and southwest of the reservoir.

Seismicity is considered a minor risk in Colorado based on the absence of observations of major earthquakes or fault movement in the last 100 years (BLM 1983). Inspection of the earthquake history for the area within 100 miles of the Williams Fork reservoir (search based on 106.22 degrees West longitude, 40.02 North latitude) indicates that 20 earthquake events greater than 3.0 magnitude have occurred within the last 30 years; for the area within 50 miles, only 6 earthquake events greater than 3.0 have occurred within the last 30 years (NEIC 2004). In terms of ground motion hazard, there is a 2 percent probability that the peak ground acceleration in this area would exceed 13.95 percent of the acceleration of gravity in 50 years (NEIC 2004).

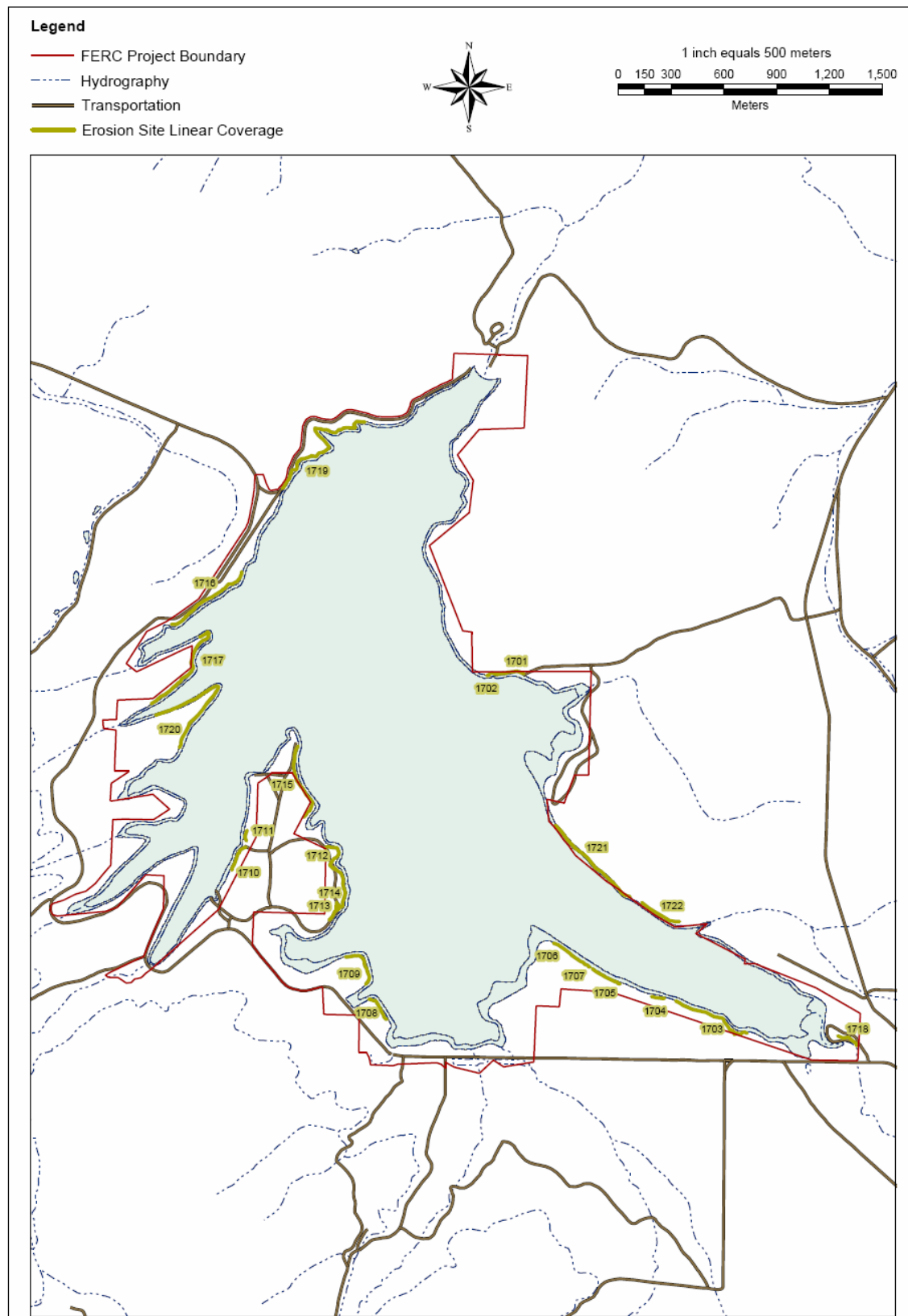
Soils

In general, the soils in the area occupied by the Williams Fork Project have formed on alluvial fans and terraces in alluvium from sedimentary rocks. The soils on the terraces west of the reservoir and on the upper terraces southeast of the reservoir are medium- to fine-textured loams formed in hard volcanic ash (SCS 1983). Soils on the lower parts of the terraces southeast of the reservoir are sandy loams with a high content of rounded cobbles and gravel formed in coarse-textured alluvial outwash. Cedar Ridge is a complex of rock outcrops and soils; the soils are stony loams or gravelly sandy loams formed in material weathered from the metamorphic bedrock. In general, the soils surrounding Williams Fork Reservoir are moderately permeable, up to about 60 inches deep, and have high available water capacity. Surface runoff is generally slow or medium, and erosion hazard³ ranges from slight (or low) to high within all soil types, depending primarily upon slope.

A soil erosion survey was performed during the summer of 2003 to aid in assessing potential resource risks associated with the Williams Fork Project (Steigers 2004a). Erosion sites were delineated and mapped using Geographical Positioning System (GPS) technology (Figure 5). Nineteen active bank erosion sites were identified along the shores of the Williams Fork

³ Erosion hazard is an estimate, based on soil properties, of how a site will react if it is disturbed (BLM 1983).

Figure 5. Williams Fork Project Erosion Site Map



Reservoir where erosion is caused by normal wave activity on the reservoir. Approximately 29 percent of the reservoir's edge is experiencing erosion. Erosion at most of the sites was judged to be severe, i.e., all of the upper soil horizons have been lost and deeper soil layers may have been removed as well. In most cases, wave action has undercut the reservoir bank and eroded away lower substrates. As the lower layers are removed, the overlying soils simply fall to the beach and are washed away.

Stream bank erosion is taking place at a site along the Williams Fork River where it flows into the reservoir, apparently as a result of river alterations caused by upstream bridge construction. Gully erosion related to dispersed recreation is taking place at a number of upland sites.

Three areas were judged to represent a significant resource risk because they threaten land uses, project facilities, or fish and wildlife habitat. These include a severely eroded bluff along the reservoir shoreline (two sites), the severely eroded riverbank at the reservoir inlet, and an upland area that has been disturbed by off-road vehicle traffic (two sites). Nine other erosion sites represent minor resource risks, including some loss of upland area and degradation of scenic value, and eight sites present no resource risk.

Environmental Impacts

PROPOSED ACTION

Only very minor impacts on geology and soils resources are anticipated from future operation of Williams Fork Project under the Proposed Action. No construction impacts would result from installation of the new generating unit within the facility's previous development footprint. Minimal land-disturbing activities would take place in the process of implementing recreation enhancements at the Project in association with the minor reconfiguration of the east-side campground, but these would occur at locations within the campground facility that have already been disturbed. In addition, activities related to the erosion control efforts described below will, themselves, result in minor land disturbance. These disturbed areas will be reclaimed and revegetated in conjunction with final site restoration associated with the erosion control work.

Denver Water is or will be addressing a number of ongoing conditions resulting from past and current operation of the Project, as follows.

Reservoir Shoreline Erosion

Erosion of the Pleistocene gravel and alluvial terraces along the southeastern shoreline of the reservoir represents a significant resource risk at the Williams Fork Project. This active erosion results in continuous loss of upland areas within the FERC property boundary and threatens adjacent private property.

Erosion along approximately 3,000 feet of shoreline in this area has created a near-vertical bluff between 10 and 15 feet high above the "beach," and this bluff continues to be eroded by bank cut processes (Denver Water 2001). The high water line of the reservoir lies 1 to

2 vertical feet below the base of the vertical bank, and wave run-up calculations indicate that waves impact the current slope during the design wind event. The impact of these waves will eventually erode the slope back to the existing grade of the beach, a 5H:1V configuration. As the bottom of the slope is eroded away by wave action, the overlying bank will fall back to a stable configuration near a 2H:1V slope. Slopes much steeper than this, including the current vertical configuration, are inherently unstable under their own weight and will, over time, fail back to a stable alignment.

The nature of Denver Water's erosion site remediation is to stabilize the shoreline by reducing the slope of the bluff. The design (Figure 6) calls for continuing the existing 5H:1V beach slope to the maximum estimated wave run-up point, which is 6 to 7 feet horizontally past the base of the current vertical bank. Once past the maximum anticipated reach of the waves, the remainder of the slope will be cut back to a stable 2H:1V configuration. Denver Water will employ appropriate Best Management Practices (BMPs) to minimize sedimentation that might be caused by this work.

The shoreline stabilization design would move the upper edge of the slope back about 24 feet along its 3,000-foot length, resulting in the permanent loss of 1 to 2 acres of upland area and the soils, native vegetation, and wildlife habitat it supports. Another approximately 30 feet would be required for maintenance access along the top of the bluff plus additional area for staging and stockpiling of excavated materials.

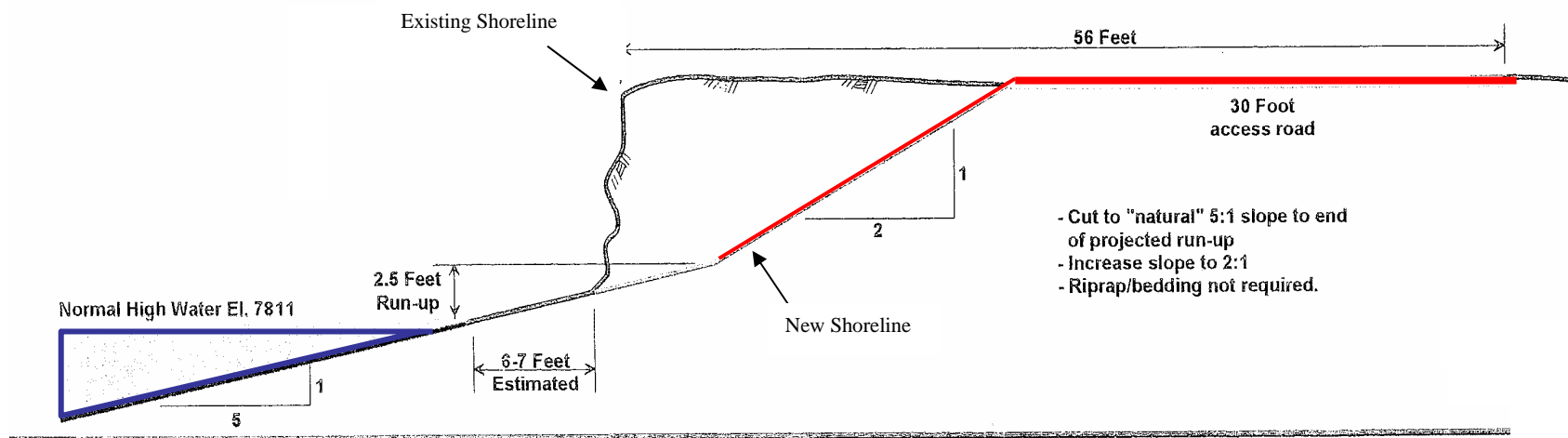
Denver Water initiated erosion control activities in this area in 2002, completing about half of the shoreline stabilization project. The work was curtailed in 2003 and is currently in abeyance as a result of mitigation efforts for a recently discovered cultural resources (archaeological) site located near this area (see Section V.C.7). Denver Water intends to resume erosion control activities during the spring/summer of 2005. Disturbed areas will be reclaimed and revegetated in conjunction with final site restoration associated with the erosion control work.

Erosion control work performed to date has resulted in the creation of two long ridges of spoil material along the top of the bluff, which, although partially stabilized by common weeds and native plants, are themselves subject to wind and water erosion. Following completion of the erosion control work, Denver Water will dispose of the spoil piles. The crushed rock component of the spoil piles will be removed for use as road base, and the fines will be spread on the disturbed areas along the top of the reservoir margin and the upper part of the new slope to serve as a seedbed for revegetation. Subsequently, the area will be monitored periodically for noxious weed infestation, and control measures will be applied, if necessary.

This large-scale erosion control effort will prevent the eventual erosion of substantial quantities of gravel and alluvium into Williams Fork Reservoir. It will also prevent the loss of additional upland areas within the FERC property boundary and on adjacent private property, as well as the terrestrial resources they support, including soils, native vegetation, wildlife habitat, and identified NRHP-eligible cultural resources.

The other Williams Fork Reservoir shoreline erosion sites are similar to one another in that they are located along peninsulas that extend into the reservoir, are almost exclusively

Figure 6. Williams Fork Reservoir – Southeast Shoreline Erosion Control Design



caused by normal wave action in the reservoir, and pose little or no risk to resources at the Williams Fork Project. No erosion control measures are proposed for these sites.

Riverbank Erosion

Erosion along the north side of the Williams Fork River near the reservoir inlet represents a significant resource risk by encroaching on project camping facilities. At the time of the erosion survey, two campsites were observed to have been partially lost to erosion of the riverbank. The potential for significant erosion to continue at this site is high, especially during peak flow events in the Williams Fork River.

Denver Water will develop appropriate erosion controls to stabilize the riverbank. An engineering design will be developed for a structural solution using gabions or riprap to armor the affected bank. The immediate area affected by construction will be reseeded to enhance vegetation recovery.

The reservoir inlet campground receives an intense amount of use for a relatively small area. Crowding occurs from combined camping and day-use parking. The campsites are informal and have been compacted by continual vehicle use triggered by the popularity of this site. Riparian vegetation has been adversely impacted by heavy use, and soils have been denuded. Denver Water intends to close the campground for 1 full year to rehabilitate the site and, subsequently, to convert the area for day-use access only (see Section V.C.8).

Implementing the structural repair at the riverbank erosion site will stop further erosion at this location, and reseeded the construction area will stabilize the area. Closing the inlet area for a 1-year period and limiting future access to day use will improve the vegetative cover in the area and reduce the potential for additional erosion. These measures will enhance soil stability in the only identified problem area along the riverbank and will minimize future impacts from the continued operation of the Williams Fork Project.

Upland Erosion

As a generally accepted policy, Denver Water does not restrict recreational vehicle access and travel at the Williams Fork Project. Among other things, this has resulted in the development of a network of dirt roads that provide access to numerous dispersed camping and shoreline fishing sites around the peninsula near the peninsula campground/boat launch. Some resource damage is occurring from gullying along these roads, most notably two gully erosion sites that have resulted from overland vehicle activity down steep slopes above the reservoir. Water flowing down these dirt tracks to the beach has created well-defined channels down their length. The intensity of erosion in these areas will likely increase if vehicle use continues at these sites.

Denver Water intends to block access to the two gullied roads described above to the extent practicable in such open terrain. In addition, in conjunction with recreation enhancements at the Project, Denver Water will also post signs at appropriate locations restricting motorized travel to existing roads and paths and encouraging responsible use and protection of Williams Fork Project resources, including soils, native vegetation and wildlife habitats, and landscapes.

Implementing selective closures on an as-needed basis and limiting travel to existing roadways will reduce upland erosion associated with motorized travel. These measures will minimize ongoing erosion and enhance vegetation recovery at affected sites. The proposed signage will improve public acceptance of the closures and promote responsible use of Williams Fork Project amenities. Taken together, these measures will minimize the potential for future erosion and degradation of soils in the project area.

ACTION ALTERNATIVE

Only very minor impacts on geology and soils resources are anticipated from future operation of the Williams Fork Project under the Action Alternative. Future project operation and hydrology under the Action Alternative will be the same as for the Project under the Proposed Action. Consequently, the same types and magnitude of impacts to geology and soils resources, e.g., reservoir shoreline and riverbank erosion, from future project operations would occur under the Action Alternative as are described above for the Proposed Action.

No construction impacts would result from installation of a new generating unit because no such installation would take place under the Action Alternative. The minimal land-disturbing activities associated with implementing recreation enhancements at the Project under the Proposed Action would also occur under the Action Alternative, as would the minor land disturbance associated with ongoing erosion control efforts at the Project.

Denver Water proposes to implement the same environmental enhancements under the Action Alternative as proposed for the Proposed Action. These would include completing the erosion control work along the southeastern shoreline of the reservoir, disposing of existing spoil piles, and revegetating the affected area; designing and implementing riverbank erosion control measures at the Williams Fork River inlet to the reservoir; and instituting road closures to curtail upland erosion related to dispersed recreation at the Project. These measures would minimize ongoing erosion, enhance soil stability and vegetation recovery, and minimize future impacts from the continued operation of the Williams Fork Project under the Action Alternative.

NO-ACTION ALTERNATIVE

Ongoing impacts on geology and soils resources are anticipated from future operation of the Williams Fork Project under the No-Action Alternative. Because future project operations and hydrology under the No-Action Alternative would be the same as under the Proposed Action, the same types and magnitude of impacts to geology and soils resources, e.g., reservoir shoreline and riverbank erosion, from future project operations would occur under the No-Action Alternative as described above for the Proposed Action.

The minimal land-disturbing activities associated with implementing recreation enhancements at the Project under the Proposed Action also would not occur because no new environmental protection, mitigation, or enhancement measures would be implemented under the No-Action Alternative.

Under the No-Action Alternative, Denver Water would likely complete the erosion control work along the southeastern shoreline of the reservoir and the riverbank erosion control measures at the Williams Fork River inlet because these projects were recognized and initiated as

necessary project maintenance tasks under the existing license. However, road closures to curtail upland erosion would not be instituted, and rehabilitation of the reservoir inlet campground would not occur. Therefore, these ongoing project-related impacts to geology and soils resources would continue in the future from continued operation of the Williams Fork Project under the No-Action Alternative.

2. Water Resources

Affected Environment

The climate of Middle Park is characterized by long, cold winters and short, cool summers with low to moderate precipitation (BLM 1983). An average of 30 inches of precipitation falls in the upper Williams Fork River drainage basin every year, approximately 60 percent of which eventually ends up as surface streamflow.

The drainage area of the Williams Fork River basin, which ranges in elevation from 13,000 feet at the mountain peaks to 7,800 feet at Williams Fork Reservoir, is approximately 230 square miles. Maximum precipitation occurs during July and August from thunderstorms brought into Middle Park by monsoonal flow from the south and southwest (Siemer 1977, Tang and Reiter 1984). This flow is part of a larger circulatory pattern that brings moisture into Colorado from the Gulf of Mexico and the Gulf of California during the late summer (Mitchell 1976).

The cumulative winter snowpack in the surrounding mountain ranges (liquid water equivalent) is about 14.75 inches. Meltwater from these mountains accounts for about 85 percent of the area's total streamflow (Grant and Kahan 1974). Even when summer droughts occur, major drainages such as the Colorado River and the Williams Fork River continue to flow and are a reliable water source.

On the average, there are no months during the growing season where evaporation exceeds precipitation. However, during dry years, net moisture losses may occur from May through September, resulting in plant moisture stress. Drought conditions occur frequently enough to have influenced the character of the native vegetation in Middle Park.

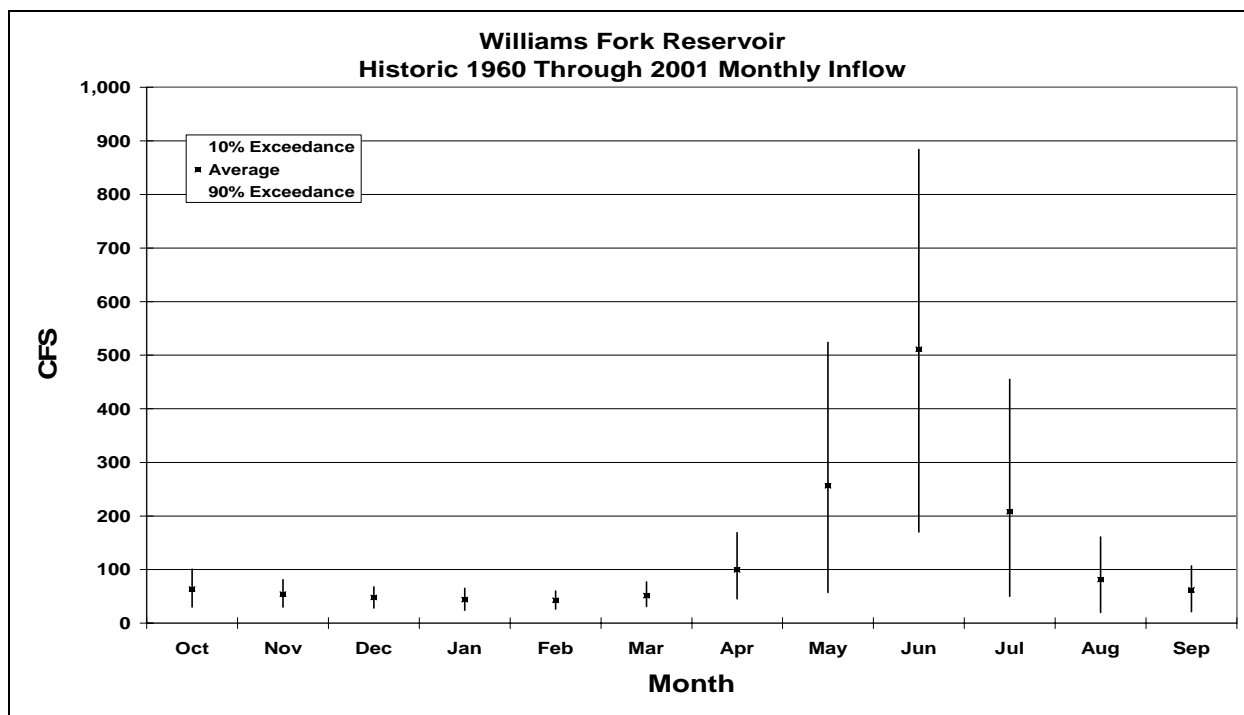
Water quality issues in the Upper Colorado River Basin relate to land and water use and differ in the headwaters and downstream areas. The primary nonpoint-source activities are irrigated and nonirrigated agriculture, grazing, streamflow regulation by dams and diversions, and recreation. Water quality in the Upper Colorado River Basin is generally satisfactory, although runoff from both point- and nonpoint-source agricultural-related industry, mining-related industry, municipal wastewater treatment facilities, and naturally occurring saline ground water discharges can cause localized water quality problems (Driver 1994).

Hydrology

Williams Fork Reservoir stores most water during the high spring runoff, typically from about mid-April through mid-July. Average monthly inflows to Williams Fork Reservoir typically range from 200 to 500 cfs during May, June, and July and are below 100 cfs from

August through April (water years 1960 through 2001) (Figure 7). During these years, inflows exceeded 500 cfs about 5 percent of the time and were below 100 cfs about 70 percent of the time (Figure 8).

Figure 7. Historic Average Monthly Inflow (1960 through 2001 Period of Record)



Operation of the reservoir alters the distribution of outflows such that average actual monthly outflows are between approximately 75 cfs and 170 cfs throughout the year (water years 1960 through 2001) (Figure 9). Outflows exceeded 500 cfs less than 1 percent of the time and were below 100 cfs only about 35 percent of the time during 1960 through 2001 (Figure 10).

Operation of the Williams Fork Project has gradually changed over time as a function of growing municipal water supply demands. Denver Water evaluated reservoir operations under the current-use demand level with its PACSM model (Denver Water 2004b). The modeling approach uses historical inflow data over the period of record (1947 through 1991) and estimated current demand levels to model outflows over the range of historical hydrologic inflow conditions rather than using actual historical outflow data that might not accurately represent the current demands on the system and current operation of the Williams Fork Project. Operations modeling of the current demand level indicates that highest average monthly outflows would occur in July and August, with the two next highest months being June and September (Table 1). Lowest average monthly outflows would occur from December through March. This pattern is consistent with annual water demand patterns, both with respect to municipal water supply requirements (replacement of Denver Water depletions from the upper Colorado River system) and with respect to downstream needs for irrigation or other uses. The very lowest monthly outflow modeled would have occurred in April and June, and the very highest outflow modeled

would have also occurred in June. Appendix C contains summary outflow data and exceedance curves from the current-use demand level modeling effort.

Figure 8. Historic Inflow Exceedance Curve (1960 through 2001 Period of Record)

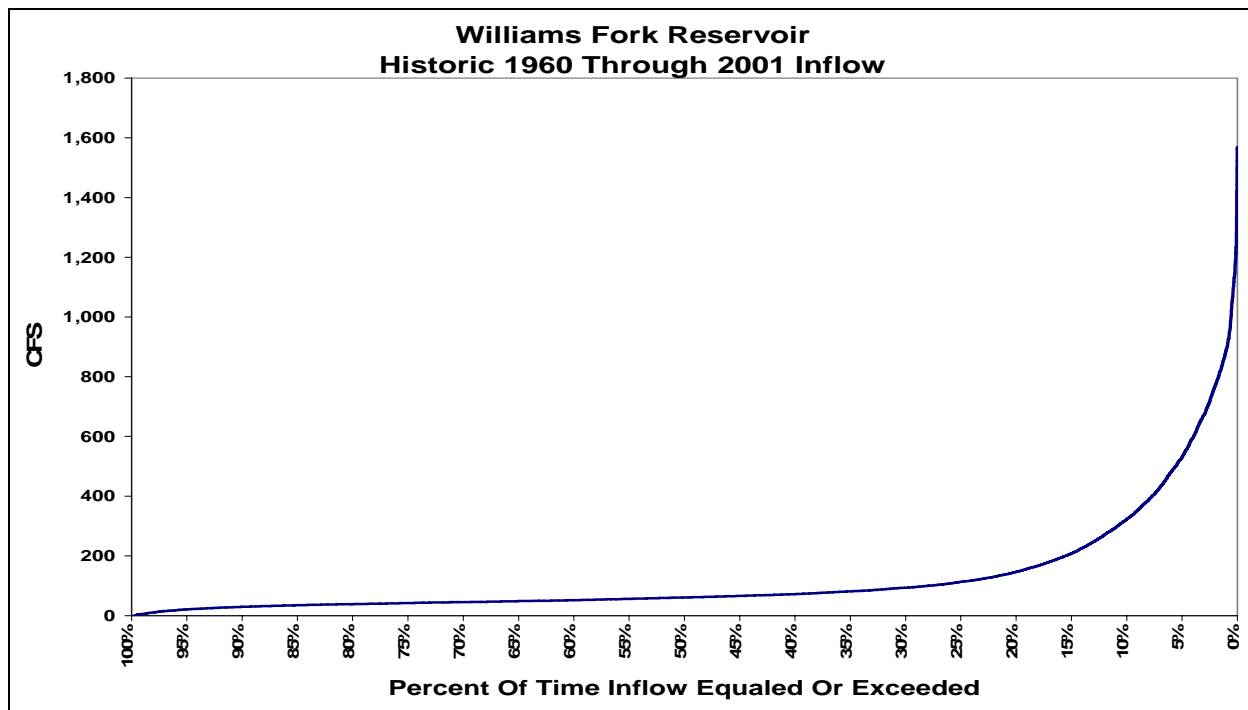


Figure 9. Historic Average Monthly Outflow (1960 through 2001 Period of Record)

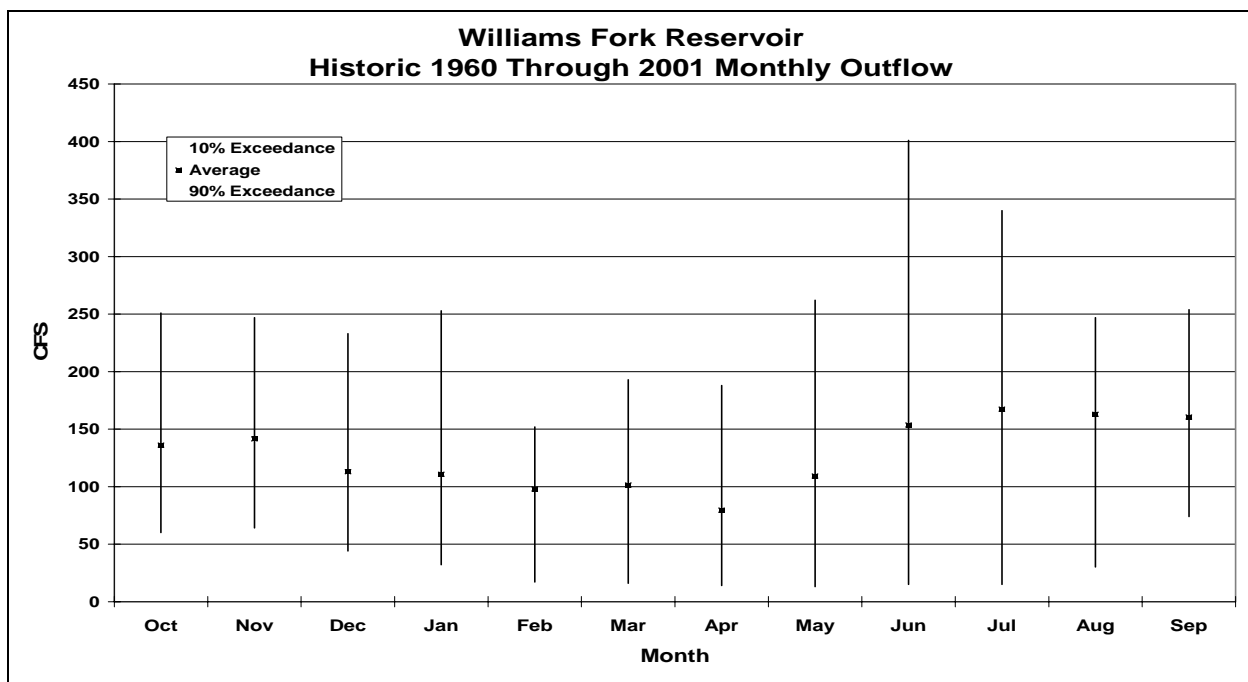


Figure 10. Historic Outflow Exceedance Curve (1960 through 2001 Period of Record)

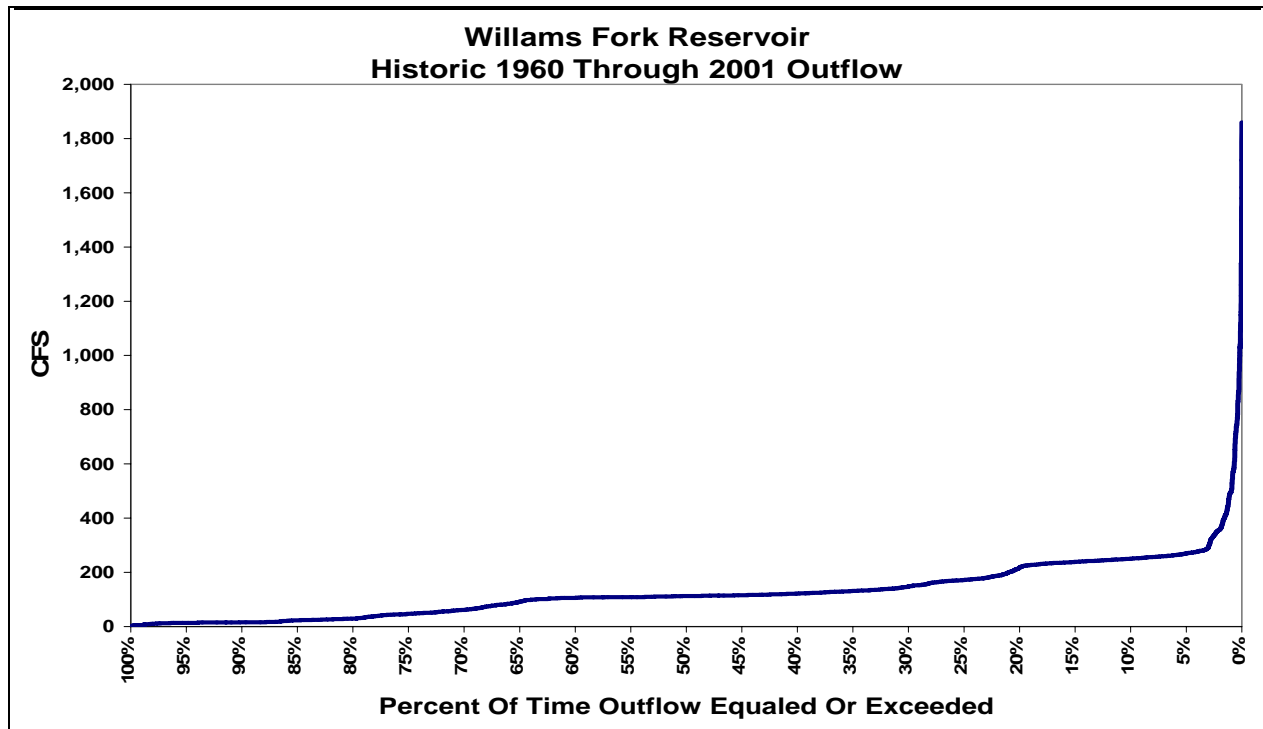


Table 1. Monthly Outflows (in cfs) for Current-Use Demand Level (Modeled from 1947 through 1991 Period of Record Historical Inflow Data)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Average	145	125	89	83	76	87	125	123	189	213	195	169
Minimum	22	79	57	43	48	16	15	15	15	15	83	78
Maximum	208	267	129	164	177	248	255	241	1,002	780	310	286

Note: From PACSM model (Base 285 Run 42)

Water Quality

Denver Water operates a state-certified water quality laboratory. Denver Water has collected Williams Fork Project temperature and dissolved oxygen (D.O.) data over several past years, including inlet, outlet, and reservoir profile data. Sampling of Williams Fork Reservoir inlet water quality is conducted just upstream of the reservoir on the east side of river across from the USGS gaging station, and sampling of Williams Fork Reservoir outlet water quality is conducted at the USGS gaging station immediately below the dam. Williams Fork Reservoir temperature and D.O. profile data are recorded at a standard position just upstream of the dam, and the reservoir elevation is recorded at the time of sampling.

Single monthly samples were taken during May through October of 2000, June through September of 2001, and June through September of 2003. A data set for 2002 is not available because drought conditions resulted in very low reservoir water levels that prohibited launching a boat on the reservoir for data collection. The data collection effort focused on the ice-free period because summer stratification is generally the period when water temperatures or dissolved oxygen would have the greatest potential to affect aquatic resources. Temperature and D.O. data collected by Denver Water from the Williams Fork Project are provided in Appendix D.

Temperature

Data collected by Denver Water's state-certified water quality laboratory indicate that the temperature of water entering the reservoir from the Williams Fork River increased approximately 9 degrees Celsius (°C) (from 11° C in May to 20° C in July and August) throughout the summer of 2000, approximately 5° C (from 11° C in May to 16° C in August) in 2001, and approximately 7° C (from 10° C in June to 17° C in July and 16° C in August) in 2003. The large body of cold water residing in the reservoir at the end of winter moderates these temperatures such that reservoir outlet temperatures ranged only from 6° C in May to 11° C in September during the year 2000, and from 7° C in June to 9° C in September during 2001; during 2003, the outlet temperature increased from 9° C in June to 19° C in July⁴ and then dropped to 8° C in August.

Even under extremely low water conditions, outflows from Williams Fork Reservoir remain cool. Drought conditions during 2002 resulted in the reservoir being drawn down to less than one-half capacity. Sampling on August 13, 2002, as part of Denver Water's watershed program took place when the reservoir was at an elevation of 7,763.1 feet and a volume of 39,491 acre-feet, yet outflow temperatures were still only 11° C.

USGS temperature data for the Williams Fork River immediately downstream from the reservoir (USGS Station 09038500) for the years 1964 through 2002 are consistent with Denver Water data, reflecting typical (modal and median) temperatures of 5° C in May, 7° C in June, 8° C in July, 9° C in August, and 9.5° C in September (USGS 2004a) (Table 2).

In comparison, USGS temperature data for the Colorado River at Hot Sulphur Springs (USGS Station 09034500, located approximately 5 miles upstream of the confluence of the Williams Fork River and the Colorado River) for 1969 through 1994 indicate higher typical (modal) temperatures of 8° C in May, 13° C in June, 14° C in July, 16° C in August, and 12° C in September (USGS 2004b) (Table 2).

⁴ On the date the July 2003 sample was taken (July 31, 2003), the reservoir elevation was 7,806 feet, and the hydroelectric generation unit was not operating. Therefore, water was being released from the reservoir through the low-level river outlet works and by spilling. The contribution of approximately 20° C water being spilled from the reservoir epilimnion (see 2003 reservoir temperature profiles in Figure 11) accounts for the elevated temperature of the reservoir release on that date.

Table 2. Median Temperatures (° C) in the Williams Fork River below Williams Fork Reservoir (USGS Station 09038500) (USGS 2004a) and in the Colorado River at Hot Sulphur Springs (USGS Station 09034500) (USGS 2004b), May through September

USGS Station and Period of Record	Median Temperature (° C)				
	May	Jun	Jul	Aug	Sept
Williams Fork River below Williams Fork Reservoir (1964-2002 Period of Record)	5	7	8	9	9.5
Colorado River at Hot Sulphur Springs (1969-1994 Period of Record)	8	13	14	16	12

Temperature profiles for 2000, 2001, and 2003 indicate that Williams Fork Reservoir undergoes thermal stratification during the summer. Thermal warming of the surface begins in May, with a well-defined thermocline of about 10 meters gradually developing starting at a depth of 5 to 10 meters below the surface (Figure 11). By June, water temperatures for any one month are generally relatively uniform below 20 or 25 meters. Fall turnover begins in September as the surface water begins to cool. The resulting reservoir destratification is generally complete by October, and the water returns to a relatively uniform temperature throughout the reservoir.

Dissolved Oxygen

During the years 2000, 2001, and 2003, D.O. levels at the Williams Fork Reservoir inlet varied only 1 to 2.8 mg/L throughout the summer (10 mg/L in June to 7.2 mg/L in July) in 2000, 8.9 mg/L in June to 7.9 mg/L in August in 2001, and 9.4 mg/L in June to 7 mg/L in August in 2003). Outlet D.O. levels were comparable to reservoir inflow D.O. levels in early spring but continued to decrease throughout the summer due to thermal stratification in the reservoir. Following reservoir destratification in the fall, D.O. levels recovered to approximate levels of the inlet.

Thermal stratification affects D.O. levels throughout the reservoir water column during the summer months. May, June, and sometimes July D.O. concentrations measured near the dam are fairly constant at all depths, with readings of 7 to 9 mg/L (Figure 12). As thermal warming occurs in the summer months, D.O. levels of the upper layers fall slightly, and, while D.O. levels are generally relatively uniform at all depths below the thermocline, they drop a little lower each month until after the fall turnover in September or October. D.O. concentrations below the thermocline may fall below 6 mg/L by July or August and below 4 mg/L or even 2 mg/L by September or October. The very lowest D.O. levels were recorded late in the season at the greatest depth.

State of Colorado Water Quality Standards

The CDPHE Water Quality Control Commission classifies the Williams Fork River (referred to as upper Colorado River Segment 8), including all tributaries, wetlands, lakes, and reservoirs, for Aquatic Life Cold Water Class 1, Recreation 1, Water Supply, and Agriculture uses (CDPHE 2002). Cold water biota means aquatic life, including trout, normally found in

waters where the summer temperature does not often exceed 20° C, as is the case for the Williams Fork River. Numeric standards have been established for physical and biological criteria (temperature, D.O., and pH), inorganic compounds, and metals (CDPHE 2001).

The CDPHE temperature standard for Class 1 cold water biota is a maximum of 20° C.⁵ USGS temperature records for the Williams Fork River immediately downstream from the reservoir (USGS Station 09038500) for the years 1964 through 2002 and Denver Water temperature records for 2000 through 2003 indicate that temperatures never reached 20° C (USGS 2004a, Denver Water 2004a). Of the 301 measurements taken during this time, the highest temperature recorded in the river was a single occurrence of 19° C; none of the other readings was over 15° C. . This 19° C temperature occurred as the result of a spill when the hydroelectric turbine was down for service and warmer surface water was passed over the spillway. By comparison, of 236 measurements taken in the Colorado River upstream of the confluence of the Williams Fork River and the Colorado River from 1969 through 1994, five were over the 20° C cold water biota standard, and another 26 were over 15° C (USGS 2004b).

The CDPHE D.O. standard for Class 1 cold water biota is a minimum of 6.0 mg/L.⁶ Standards for recreational, agriculture, and domestic water supply are 3.0 mg/L. USGS and Denver Water D.O. records for the Williams Fork River immediately downstream from the reservoir for 1964 through 2003 indicate that D.O. levels ranged from 4 mg/L to 13 mg/L (USGS 2004a, Denver Water 2004a). Of the 45 measurements made during that time, only three were below the 6.0 mg/L standard for Class 1 cold water biota. These low D.O. concentrations were recorded during August, September, and October and probably resulted from D.O. depletion in the lowest depths of the reservoir at the end of the summer. The typical (median) D.O. level in the Williams Fork River below the dam was 8.8 mg/L.

The CDPHE pH standard for Class 1 cold water biota is from 6.5 to 9.0 standard units. This same standard applies for recreational use, and the standard for domestic water supply is 5.0 to 9.0 standard units; there is no standard for agriculture use. USGS and Denver Water records for the Williams Fork River immediately downstream from the reservoir for 1964 through 2003 indicate that pH levels ranged from 7.2 to 8.3 (USGS 2004a, Denver Water 2004a). Of the 43 pH readings taken during that time, the typical (median) pH was 7.9.

5 In addition, "Temperature shall maintain a normal pattern of diurnal and seasonal fluctuations with no abrupt changes and shall have no increase in temperature of a magnitude, rate, and duration deemed deleterious to the resident aquatic life. Generally, a maximum 3° C increase over a minimum of a four-hour period, lasting 13 hours maximum, is deemed acceptable for discharges fluctuating in volume or temperature" (CDPHE 2002).

6 " . . . or 7.0 mg/L during periods of spawning of cold water fish set on a case-by-case basis . . . for those dischargers whose effluent would affect fish spawning" (CDPHE 2002). The higher D.O. standard for cold water fish spawning has not been prescribed for Williams Fork Reservoir outflows.

Figure 11. Williams Fork Reservoir 2003 Temperature Profiles

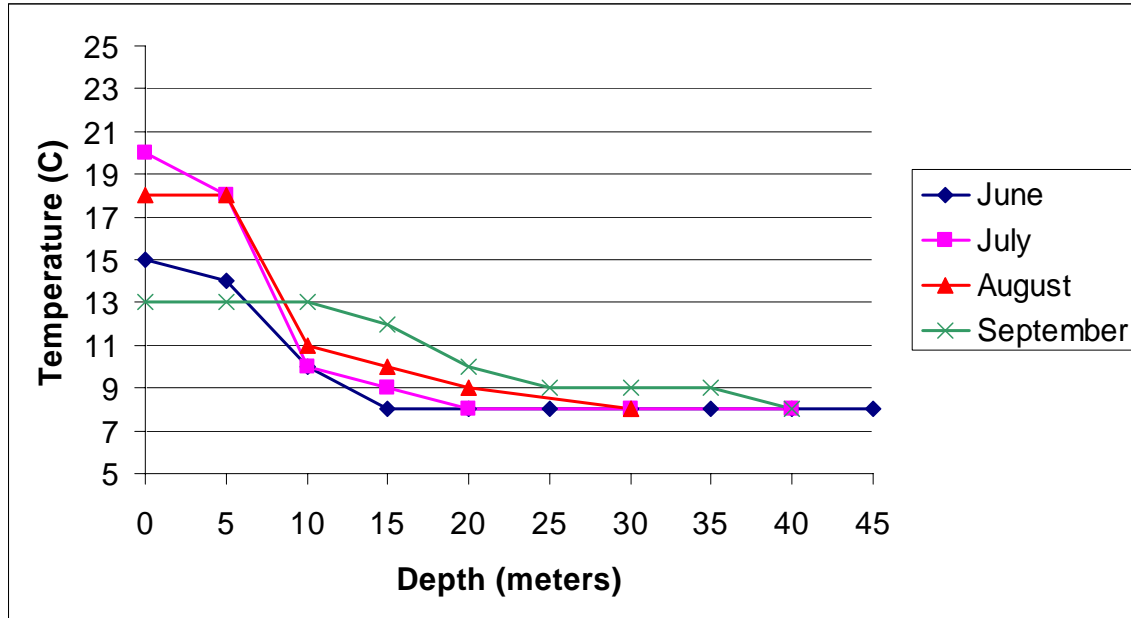
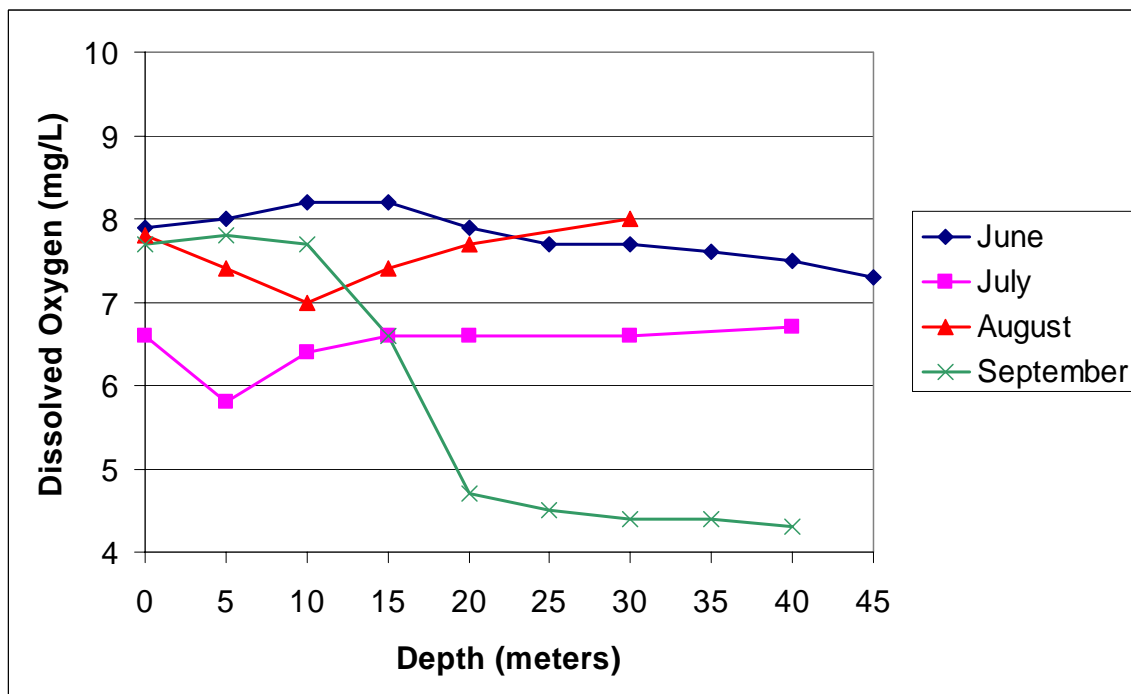


Figure 12. Williams Fork Reservoir 2003 Dissolved Oxygen Profiles



There is no CDPHE conductivity standard for Class 1 cold water biota. USGS records for the Williams Fork River immediately downstream from the reservoir for 1964 through 2004 show specific conductance ranging 70 to 153 microsiemens per centimeter ($\mu\text{s}/\text{cm}$) (USGS 2004a). Typical levels in most of the Colorado River watershed are 300 to 700 $\mu\text{s}/\text{cm}$ (LCRA 2004).

Based on its high level of compliance with state water quality standards, the water quality of the Williams Fork River downstream from Williams Fork Reservoir is considered to be very good.

Environmental Impacts

PROPOSED ACTION

Hydrology

Comments received during scoping pointed out that, as Denver Water's diversions on other river systems (e.g., the Moffat Tunnel System) change in the future, operation of the Williams Fork Project could be affected to the extent that Williams Fork water is used to provide replacement water, i.e., changes in other diversion systems could result in changes to Williams Fork Project hydrology.

The degree to which the Williams Fork Reservoir can be used to provide replacement water is a function of the reservoir's net water storage and the water demands in any given year. The precise operation of the Project at any given time is a function of several factors, including the prevailing hydrologic conditions, water rights requirements, and water supply requirements.

Denver Water has evaluated the full or maximum use of the reservoir to store and release water annually consistent with its water supply purposes (Denver Water 2004b). The modeling approach developed by Denver Water uses the historical inflow hydrology over the period of record (1947 through 1991), whose values are not affected by project operations, and then accounts for anticipated demand levels to model outflows over the range of hydrologic inflow conditions. This approach provides the best data for hydrologic variability and eliminates concerns expressed during scoping about using older actual outflow data that might not accurately represent the current and expected future operation of the Project. The anticipated demand levels are equivalent to maximum use of the Williams Fork Reservoir for providing replacement water, so the modeled operations accurately depict future project operations. This modeling approach reasonably represents the maximum use of the reservoir irrespective of any specific operation of other diversions associated with Denver Water's collection system.

Modeling of full use of the reservoir indicates that average annual outflows would be approximately 1.3 percent lower than modeled current-use outflows (Denver Water 2004b). Highest average monthly outflows would occur in July and August, as they do under the modeling of current use, with the next highest months being September and October (Table 3). Lowest average monthly outflows would occur from December through March, as they do under modeling of current use. Average monthly outflows would change less than 10 percent except during June, when modeled future outflows would be approximately 20 percent lower than modeled current outflows. The general trend would be to shift use slightly from several of the

higher-use months to the lowest-use months (Table 4). Summary results of the modeling and exceedance curves for full-use operation of the Williams Fork Project are provided in Appendix C (Denver Water 2004b).

Table 3. Monthly Outflows (in cfs) for Full-Use Demand Level (Modeled from 1947 through 1991 Period of Record Historical Inflow Data)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Average	151	119	90	88	81	95	124	114	150	204	204	177
Minimum	58	72	58	42	48	18	15	15	15	15	74	87
Maximum	222	267	140	190	193	289	268	241	827	725	307	287

Note: From PACSM model (Baseline Run 43)

Table 4. Net Change in Modeled Monthly Outflows (in cfs) from Current-Use to Full-Use Demand Level (Modeled from 1947 through 1991 Period of Record Historical Inflow Data)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Average	6	-6	1	5	6	8	-1	-9	-39	-10	9	8
Minimum	36	-7	1	-1	0	2	0	0	0	0	-9	9
Maximum	14	0	11	26	16	41	12	0	-174	-55	-3	1

Note: Basis is full use minus current use such that positive numbers represent an increase in flow and negative numbers represent a decrease in flow for the full-use case.

Operating the Williams Fork Project according to the full-use hydrology will maintain downstream flows at levels similar to current flows, which will protect the current resource values of this river reach, including water quality, fisheries, and recreation.

Cumulative Impacts

Reservoirs in the Upper Colorado River Basin generally store water during the spring runoff period (April through June). Water storage reservoirs, therefore, serve to reduce peak flows and, depending on their purpose, may redistribute flows throughout other times of the year. Reducing peak flows can affect channel morphology by reducing the frequency and intensity of channel-forming flows. The many different water storage and diversion projects within the Upper Colorado River Basin have cumulatively reduced streamflows in the upper Colorado River and many of its tributaries. Reduced streamflows can reduce sediment transport, alter channel morphology through aggradation, and reduce the amount and quality of aquatic and riparian habitats.

Streamflows may be reduced through both diversions and consumptive uses. Return flows from irrigation and municipal uses may reduce the total depletive effect of in-basin water diversions on stream flows. The total average annual consumptive water use from the mainstem

Colorado River within Colorado was estimated to be about 2.08 million acre-feet for the period 1996 through 2000 (USBR 2004). The majority of this consumptive use (approximately 70 percent) is attributable to irrigation uses. The total average annual out-of-basin diversion for the period 1988 through 1997 from the Upper Colorado River Basin (within Colorado) amounted to approximately 475,525 acre-feet (Colorado River Water Conservation District 2004). Out-of-basin diversions have no return flow component and represent a direct loss to net annual streamflow. The planned Windy Gap Firming Project and the Moffat Collection System enlargement will increase the total storage and diversion of Colorado River water, which will further reduce streamflows in the future.

Eventual operation of the Williams Fork Project under full use of Williams Fork Reservoir for water supply purposes will result in outflows approximately 1.3 percent lower than modeled current-use outflows. Because William Fork Reservoir operates to provide replacement water for other diversions, the primary effects of its operation are related to redistribution of flows (timing) and evaporative losses from the reservoir. Total depletions from the Williams Fork Project are estimated to be 27,475 acre-feet annually (see discussion of impacts to fish species in Section V.C.5). This estimate reasonably represents the annual amount of water that would be lost to evaporation, as well as the amount of water that is subject to redistribution. Taken together with other existing and proposed projects, the operation of the Williams Fork Project would continue to have a minor contribution to adverse cumulative effects from streamflow reductions, peak flow reductions, and altered timing of flows in the Upper Colorado River Basin.

In addition to irrigation and agricultural uses within the Williams Fork basin, annual diversions through the Gumlick Tunnel are estimated to be approximately 8,275 acre-feet (Denver Water 2004d). Diversions from the Williams Fork basin associated with the Henderson Mill in 2004 are estimated to be 2,549 acre-feet.⁷ The Williams Fork Project evaporative losses and redistribution of flow would also continue to contribute to cumulative effects of streamflow reductions in the lowest 2 miles of the Williams Fork River.

Water Quality

During scoping, Trout Unlimited (TU) requested that Denver Water collect water temperature data and evaluate the potential for the reservoir to release higher temperature water to the Williams Fork River that might adversely affect trout downstream from the reservoir.

There is no indication that water temperatures are currently adversely affecting the fishery in the Williams Fork River below the Project (see Section V.C.3). Rainbow trout generally require water temperatures within the range of 0° C to 25° C for survival (Lagler 1956, McAfee 1966, Raleigh et al. 1984, Bjornn and Reiser 1991). In a laboratory study, rainbow trout had zero growth at temperatures above 23° C (Hokanson et al. 1977). While there is some variation in thermal preferences among life stages and habitats, the optimal temperature range for rainbow trout is generally from 11° C to 19° C, with fry- and juvenile-preferred temperatures in the upper portion of this range (Raleigh et al. 1984, Wismer and Christie 1987). Brown trout

⁷ Personal communication, Tim Haines, Henderson Mill Environmental Coordinator, to Hal Copeland, Steigers Corporation, December 16, 2004.

have a slightly higher thermal tolerance, with a reported temperature tolerance range of 0° C to 27° C (Raleigh et al. 1986). Reported optimal temperatures for adult brown trout are generally between 10° C and 19° C (Raleigh et al. 1986, Wismer and Christie 1987). Optimal temperatures for brown trout fry and juvenile life stages are typically slightly lower than for adults, ranging from 7° C to 15° C for fry and from 7° C to 19° C for juveniles.

The available data show summer Williams Fork Reservoir outflow temperatures that are consistently below the State of Colorado cold water biota standard of 20° C, and monthly temperatures during the summer period are within and even below the optimal temperature range for both rainbow trout and brown trout (see Appendix D). Summer outlet temperatures are generally 4° C to 6° C cooler than corresponding river (inflow) temperatures above the reservoir. This relationship demonstrates that the reservoir provides a cooling effect on outflows in comparison to inflows. With only a 2-mile reach between the reservoir and the confluence of the Williams Fork River with the Colorado River, temperatures would be expected to remain suitable for trout throughout the length of the lower Williams Fork River. Comparison of USGS temperature data for the Williams Fork River just below the reservoir and for the Colorado River approximately 5 miles upstream of the Williams Fork/Colorado River confluence (Table 2) indicates that median monthly temperatures in the Williams Fork River are consistently lower than those in the upstream Colorado River for all warm-weather months. Therefore, flows from the Williams Fork River likely have a cooling effect on Colorado River temperatures (see discussion in Section V.C.3 – Environmental Impacts, Proposed Action, Adequacy of Downstream Flows and Water Quality for Trout). The degree of cooling would be related to the relative flow volumes of the two rivers at any given time. In any case, reservoir outflows do not appear to be causing adverse effects on trout populations in either the Williams Fork River or the Colorado River as a function of warm water releases.

TU also requested that Denver Water 1) examine the position of the powerhouse intake relative to the Williams Fork Reservoir water temperature profile during different periods of operation to determine the potential for release of unsuitable water temperatures during periods of low reservoir levels and 2) assess the extent to which such impacts could be offset by shifting a portion of the releases to the deeper river outlet works. TU felt that this information would be useful in evaluating ways in which the Williams Fork Project could be managed to help improve water temperature conditions in the Colorado River.

Both the penstock intake (at a depth of approximately 107 feet [32.6 meters] below the spillway crest), which directs water from the reservoir through the hydroelectric plant, and the river outlet works (at approximately 167 feet [50.9 meters] below the spillway crest), which allows water from the reservoir to flow directly into the downstream river, are located low in the water column below the thermocline⁸. Inspection of the 2003 monthly reservoir temperature profiles (Figure 11) relative to the surface water elevations recorded on the respective sampling dates⁹ shows that the bottom of the thermocline ranged from about 63 feet above the penstock intake in June to about 16 feet above it in September (and, therefore, 123 feet above the river outlet works in June to about 76 feet above it in September). Therefore, during the summer

⁸ Depth in the reservoir at which the rate of decrease in temperature with increase in depth is the largest.

⁹ Reservoir surface water elevations: June 30, 2003 -- 7,808 feet; July 31, 2003 -- 7,806 feet; August 27, 2003 -- 7,800 feet; September 23, 2003 -- 7,794.

months, both outlets deliver the coldest water in the reservoir to the downstream river. Below the thermocline, there is very little change in water temperature with depth. In 2003, the maximum temperature change as a function of depth below the thermocline was 2° C in September and 1° C or less in all other summer months. The maximum temperature recorded below the thermocline was 10° C.

The 2000 and 2001 reservoir temperature profiles show a similar result. The powerhouse intake was always well below the thermocline, and the temperatures below the thermocline never varied by more than 2° C in any month and typically varied by 1° C or less. The highest temperature recorded below the thermocline during the summer months was never above 11° C. These data show that there would be no meaningful difference between releases delivered through the powerhouse or through the river outlet works and that the temperature of the water at either intake point is quite suitable for trout and coldwater biota. With destratification of the reservoir following fall turnover, water temperatures are relatively uniform throughout the reservoir, and penstock intake and river outlet works temperatures should be virtually the same. Therefore, under the Proposed Action, the greater proportion of the water that would leave the reservoir via the powerhouse penstock (to serve the new turbine) would have no adverse impact on downstream summer water temperatures.

It should be noted that, while summer releases to the downstream river via either the penstock intake or the river outlet from below the thermocline are the coldest water in the reservoir, they also have the lowest D.O. concentrations. Based on the 2000, 2001, and 2003 reservoir D.O. profiles, there is usually little difference between D.O. concentrations recorded at 35 meters and those recorded at 45 to 50 meters. However, at the very end of the season (i.e., September and October), D.O. concentrations are sometimes significantly lower at the lowest depths, falling to less than 2 mg/L at the deepest depths of the reservoir. Consequently, releases from the river outlet works may have a greater potential for low D.O. concentrations at such times. However, there is a significant degree of aeration that occurs as a function of releasing water from either of the outlets. Water released from the river outlet works generally extends in a horizontal plume of 20 feet or more before it hits a rock outcrop and drops into the river channel. This release mechanism provides significant aeration as a result of the violent turbulence and contact with the air. The powerhouse discharges water to a confined concrete lined pit where the water circulates turbulently before entering the river channel. Immediately below the powerhouse, the river channel has a short, high-gradient rocky section that provides significant turbulence and aeration potential. Even though late summer D.O. concentrations may be low within the reservoir, the D.O. concentrations in the river immediately below the reservoir are usually above 6 mg/L and have never been below the lower lethal limit of 3mg/L for rainbow trout.

In addition to predicting future outflow volumes, Denver Water's hydrologic modeling effort predicted monthly reservoir elevations and volumes under future full use of the reservoir. Projected reservoir volumes would average approximately 4.3 percent less than current-use modeled reservoir volumes annually, with monthly averages ranging from approximately 2.2 percent less in July to approximately 7.1 percent less in April. No months would have higher average reservoir volumes than under current operations.

Based on the small changes in future reservoir volumes, there should be virtually no changes in the reservoir temperature, thermal stratification, fall turnover, or spring turnover characteristics of the reservoir. Therefore, changes from current water quality conditions, both in the reservoir and in the downstream river, are expected to be insignificant. The large body of cold water residing in the reservoir at the end of winter will continue to benefit reservoir outlet temperatures throughout the summer. Continued thermal stratification and reservoir turnover patterns will result in the same seasonal D.O. patterns in the reservoir and in reservoir outflows as currently exist. These parameters and pH levels will continue to be suitable for Class I cold water biota, including trout, and for other designated uses of these water bodies. Furthermore, the high quality of Williams Fork River flows will continue to provide beneficial input to the Colorado River.

Although not required under the Proposed Action (license exemption), Denver Water did apply to the CDPHE for water quality certification under Section 401 of the Clean Water Act. CDPHE's Water Quality Control Division issued Section 401 Water Quality Certification for the Williams Fork Project (Colorado 401 Certification No. 2987) on June 9, 2004 (Appendix E). The Division's review concluded that only temporary impacts to water quality should occur as a result of the Project. The 401 Certification for the Williams Fork Project contains standard requirements that apply to all certifications but no special, project-specific conditions (CDPHE 2004).

No construction impacts on water quality are anticipated from installation of the new generating unit within the facility's previous development footprint or from the minimal land-disturbing activities associated with implementing recreation enhancements at upland sites at the Project. Short-term, largely localized impacts to reservoir water quality may result from the erosion control work along the reservoir's southeast shoreline. Denver Water will employ appropriate BMPs to minimize sedimentation that might be caused by this work. Any potential impacts would be minor and would be preferable to the longer-term impacts on soils and water quality that would otherwise result from ongoing erosional processes at that very vulnerable location.

Operating the Williams Fork Project according to the proposed future full-use hydrology and utilizing the existing system of reservoir outlets will maintain the water temperatures and other water quality conditions that currently exist in the Williams Fork River downstream from the reservoir. These conditions are highly suitable for trout and cold water biota. Furthermore, the cooling effect of the Williams Fork River's contribution to flows to the Colorado River will, in turn, continue to benefit the Colorado River's trout and other cold water biota. Implementing appropriate construction BMPs will minimize impacts to reservoir water quality from the shoreline erosion control activities.

Cumulative Impacts

Cumulative water uses in the Upper Colorado River Basin reduce streamflows in the Colorado River and, consequently, have the potential to cause elevated temperatures in the river during the spring, summer, and fall periods. Williams Fork Project outflows have a positive impact on downstream Williams Fork River water temperatures as a result of colder water releases from the reservoir. This cooling effect may have a slight beneficial impact on trout and

other cold water biota in the downstream Colorado River by offsetting the adverse cumulative effects of temperature increases from cumulative water uses in the Basin (see discussion in Section V.C.3 – Environmental Impacts, Proposed Action, Adequacy of Downstream Flows and Water Quality for Trout).

Although D.O. levels in the downstream Williams Fork River are generally higher than the State of Colorado standards for cold water biota, the presence of the Williams Fork Reservoir likely has a seasonal adverse cumulative effect on D.O. concentrations immediately below the dam due to the potential release of low D.O. water at the end of the summer. Due to significant aeration at the outlet works and in the Williams Fork River, this effect likely disappears well before these flows reach the Colorado River, and, thus, there should be no contribution to D.O. cumulative effects.

ACTION ALTERNATIVE

Only very minor impacts on water resources are anticipated from future operation of the Williams Fork Project under the Action Alternative. Future project operation and hydrology will be virtually the same under either the Proposed Action or the Action Alternative. Essentially the only operational difference between the Proposed Action and the Action Alternative is that a greater proportion of water would leave the reservoir through the (shallower) powerhouse penstock under the Proposed Action. However, as indicated for the Proposed Action, reservoir water temperatures are virtually identical at the depths of the powerhouse penstock and the river outlet works, so the relative quantity of water leaving the reservoir from these respective depths would not have an adverse effect on downstream water temperatures.

Consequently, the same types and magnitude of impacts to water resources, e.g., reservoir dynamics, volumes and schedule of outflows to the downstream Williams Fork River, and water quality of Williams Fork Reservoir and the downstream Williams Fork River, would occur from future operation under the Action Alternative as are described above for the Proposed Action. Beneficial influences on the Colorado River would also be the same.

No impacts on water quality are anticipated from the minimal land-disturbing activities associated with implementing recreation enhancements. Short-term impacts to reservoir water quality from the erosion control work along the reservoir's southeast shoreline would be the same as described for the Proposed Action.

As with the Proposed Action, changes from current water quality conditions, both in the reservoir and in the downstream river, are expected to be insignificant under the Action Alternative.

Denver Water is required to seek Section 401 Water Quality Certification under the Action Alternative (project relicensing). As indicated above, Section 401 Water Quality Certification for the Williams Fork Project (Colorado 401 Certification No. 2987) has been issued by the CDPHE, Water Quality Control Division.

NO-ACTION ALTERNATIVE

Only very minor impacts on water resources are anticipated from future operation of the Williams Fork Project under the No-Action Alternative. The same hydrology described for future operation under the Proposed Action would also apply to operation under the No-Action Alternative. Consequently, the same types and magnitude of impacts to water resources from future project operations would occur under the No-Action Alternative as described above for the Proposed Action. Reservoir water releases via the penstock would be the same as under the Action Alternative, but, as indicated above, it does not appear likely that this would have an effect on downstream water temperatures.

No water quality impacts associated with implementing recreation enhancements at the Project would occur because no new environmental protection, mitigation, or enhancement measures would be implemented under the Action Alternative. Denver Water would likely complete the erosion control work along the southeastern shoreline of the reservoir with appropriate BMPs under the No-Action Alternative, and any short-term impacts to reservoir water quality from the erosion control work would be the same as described for the Proposed Action. As with the Proposed Action, changes from current water quality conditions, both in the reservoir and in the downstream river, are expected to be insignificant under the No-Action Alternative.

3. Fishery Resources

Affected Environment

Williams Fork Reservoir provides approximately 1,600 surface acres of fishable water and approximately 15 miles of shoreline fishing opportunities at full pool. The reservoir is considered by CDOW to be a good recreational fishery, as is the Williams Fork River downstream from the reservoir. Although the reservoir is stocked regularly with rainbow trout and kokanee salmon, the reservoir fish community is dominated by suckers. Stream fisheries in the Williams Fork River below the reservoir are dominated by brown trout, with rainbow trout present in much lower numbers.

Williams Fork Reservoir

Williams Fork Reservoir is located in the extreme lower end of the Williams Fork River drainage basin, and the Williams Fork River represents the main input to the reservoir. Other smaller tributaries also flow into the reservoir. When the water surface is at the top of the spillway gate (elevation 7,811 feet MSL), the reservoir reaches its maximum depth of 181 feet, its maximum surface area of approximately 1,628 acres, and its maximum storage capacity of 96,822 acre-feet of water. Patterns of use of the reservoir's stored water result in significant fluctuations of the water level. The littoral zone of the reservoir comprises only 5 to 15 percent of the total area, and aquatic plants are rare. The primary bottom substrate type is silt and gravel.

Sonar data from CDOW collected in 2001 estimated the total reservoir fish population to be in excess of 58,000 fish (Appendix F). CDOW indicated that they thought this estimate was

conservative because the down-looking sonar is designed to identify pelagic¹⁰ fish but is not as effective at identifying littoral¹¹, surface-dwelling, or bottom-dwelling species. A 2003 reservoir fish survey conducted by the CDOW estimated that the reservoir fishery included approximately 56 percent white suckers, 23 percent northern pike, 8 percent rainbow trout, 6 percent lake trout, 3 percent kokanee salmon, 2 percent brown trout, and 2 percent longnose suckers. Mean lengths recorded during 2001 sampling were: northern pike (22.0 inches), kokanee salmon (16.3 inches), longnose sucker (14.0 inches), rainbow trout (11.0 inches), and white sucker (10.9 inches).

The CDOW's primary aquatic goal for Williams Fork Reservoir is to maintain high catch rates for rainbow trout and kokanee salmon. These salmonids probably spawn in the upstream Williams Fork River, but they do not reproduce in the reservoir and their populations are sustained by stocking. The CDOW stocks the reservoir with approximately 300,000 1- or 2-inch kokanee salmon per year and, during most years, with 100,000 to 200,000 rainbow trout fingerlings (2- to 5-inch). Rainbow fingerlings were not planted during 2002 or 2003 because of low reservoir elevation predictions (the lowest since 1966-1967). Some years the CDOW also stocks the reservoir with a few tens of thousand catchable (9- to 12-inch) rainbow trout. CDOW uses the Williams Fork Reservoir kokanee salmon as a source of hatchery eggs for stocking other reservoirs; it is the only active source of hatchery eggs for this species in the state. The Williams Fork River inlet to the reservoir is closed to fishing from September 15 to October 31 for the kokanee spawning run.

Williams Fork Reservoir holds the state record for the largest northern pike at 43.5 inches long and 30.6 pounds. All northern pike between 26 and 34 inches must be returned to the reservoir immediately upon being caught. Northern pike spawn in the spring on vegetation in shallow areas. Spawning occurs during the period when reservoir levels are increasing and eggs are unlikely to be exposed as a result of reservoir fluctuations. While vegetated areas around the reservoir are scarce, pike are reproducing quite successfully within the reservoir.

Williams Fork River

The Williams Fork River stream segment below the reservoir to the confluence with the Colorado River is about 2 miles long and drops from approximately 7,640 feet to 7,480 feet. The stream channel has an overall gradient of 1.5 percent. Substrate is gravel-cobble with some sand. The channel is fairly stable due in part to its confined, bedrock-dominated nature. Fishing regulations from the Williams Fork Dam down to the confluence of the Colorado River are catch-and-release with artificial flies and lures only.

Fish habitat and population studies were conducted on the Williams Fork River in 1984 through 1986 (Chadwick & Associates 1986) to support the U.S. Army Corps of Engineers' EIS prepared to evaluate systemwide and site specific impacts of the Two Forks Project (US Army Corps of Engineers 1985). Habitat in the reach above the reservoir is generally similar to the reach below the reservoir. Both reaches are dominated by riffle-run habitat, although sharp bends with undercut banks and pool habitats do occur. Fish population sampling was conducted in September 1984 in the reach above Williams Fork Reservoir and in October 1985 in the reach

¹⁰ Pelagic refers to the open water portion of the reservoir, e.g., the center area of the lake not including shallow or near-shore areas.

¹¹ Littoral refers to the shallow and near-shore portions of the reservoir.

below the reservoir (Table 5). Overall fish biomass at both sites was similar, with rainbow trout and brown trout the largest components. The number of rainbow trout was substantially higher below the reservoir, primarily as the result of high numbers of fry and juveniles (less than 6 inches). Rainbows less than 6 inches were absent above the reservoir. This difference may suggest that the rainbow population was largely maintained by stocking above the reservoir while it is clearly self-sustaining below the reservoir. Brown trout numbers were also substantially higher below the reservoir, largely due to increased numbers of fry and juveniles. Adult brown trout that appeared to have migrated upstream from the reservoir for spawning were captured during the fall sampling above the reservoir. It appears that brown trout populations are probably self-sustaining at both locations.

Table 5. Comparative Fish Population Data for Sites above and below Williams Fork Reservoir

Species	Above Reservoir (1984)		Below Reservoir (1985)	
	Estimated Density (Number per Acre)	Estimated Biomass (Pounds per Acre)	Estimated Density (Number per Acre)	Estimated Biomass (Pounds per Acre)
Rainbow trout	74	36.9	423	33.3
Brown trout	38	24.3	177	29.1
Brook trout	60	8.1	absent	--
Cutthroat trout	2	0.5	absent	--
Kokanee	4	1.5	absent	--
Paiute sculpin	27	0.5	absent	--
Mottled sculpin	absent	--	2	0.1
Speckled dace	2	0.1	absent	--
Longnose sucker	absent	--	18	3.6
TOTAL	207	71.9	620	66.1

Note: Data adapted from Chadwick & Associates 1986, Table 3.4-3, Site WF6 used for above Williams Fork Reservoir and Site IFG5 used for below Williams Fork Reservoir.

Recent CDOW fish population data are available for the reach below the reservoir (Appendix F). CDOW has not sampled above the reservoir because the upstream reach is dominated by private property and has lower angler use.¹² Recent sampling data include three locations: the "Kemp Launch Gate" is near the confluence with the Colorado River; the "Irrigation Diversion" site represents the middle of the reach; and the "Denver Water Board" or "Dam" site is located just below the dam. Sampling data from May 2001 show brown trout adult (over 6 inches) populations ranging from 1,144 fish per mile to 1,379 fish per mile, with the highest density occurring in the middle portion of the reach. Brown trout fry and juveniles (less than 6 inches) generally occurred at higher densities than adults, and total brown trout population size ranged from 1,308 fish per mile at the dam to 8,146 fish per mile near the confluence with

¹² Personal communication, Bill Atkinson, CDOW Fishery Biologist, to Hal Copeland, Steigers Corporation, December 16, 2004.

the Colorado River. Rainbow trout occurred at substantially lower densities than brown trout at all sites. The population of rainbow trout over 6 inches ranged from 109 fish per mile near the Colorado River confluence to 315 fish per mile near the dam. Adult rainbow trout numbers are limited because there was reduced recruitment of young-of-the-year after 1993 due to the spread of whirling disease. Rainbow trout are more susceptible to whirling disease than brown trout and have experienced a decline statewide. Juvenile and fry rainbow (less than 6 inches) were present at lower densities than adults at all sites, and total rainbow populations ranged from 450 fish per mile near the dam to 125 fish per mile near the Colorado River confluence.

The habitat near the dam is an incised channel dominated by bedrock and larger substrates, and this section has the highest gradient in the reach. Consequently, the highest rainbow trout densities are observed in this area and densities decline downstream, while brown trout densities are highest in the lower reaches that have a lower gradient and smaller substrates. This is especially evident for brown trout fry and juveniles.

Sampling from 2002 through 2004 was limited to fall periods, and no data are available for the Kemp Launch site, nearest the Colorado River confluence. Brown trout tend to exhibit the same basic pattern of lower densities near the dam and higher densities lower in the reach. Rainbows exhibit a consistent pattern of higher densities near the dam. The fall population estimates for brown trout in all 3 years were higher than the estimates for the spring of 2001, and adults represent a larger proportion of the total population, probably as a result of individuals entering the Williams Fork River from the Colorado River for fall spawning. At the Irrigation Diversion site, total brown trout estimates were 12,278 fish per mile in 2002, 5,685 fish per mile in 2003, and 6,615 fish per mile in 2004. Total rainbow trout populations near the dam were estimated to be 667 fish per mile in 2002, 332 fish per mile in 2003, and 303 fish per mile in 2004. CDOW does not typically stock the reach below the reservoir. However, in 2000 and 2001, 3-inch and 5-inch rainbow trout were stocked in the Williams Fork River below the reservoir as part of a study to assess susceptibility to whirling disease. The higher estimate for rainbows in 2002 may be related to higher recruitment from that stocking.

The 2000 through 2003 period represents a significant drought, and trout populations continued to exhibit high densities throughout this period. In fall of 2003, adult fish (over 6 inches) constituted 97 percent of the total brown trout estimate of 9,119 fish per mile near the dam. At the lower site, more than 80 percent of the total brown trout catch was adults. At both sites, there was a much larger component of fish near 8 inches in length, which was likely a due to high recruitment resulting from favorable low-flow conditions that enhanced survival of fry and juveniles in 2001.¹³ The brown trout populations appear to be particularly strong, with high densities, and the rainbow populations appear to be consistent and self-sustaining.

Macroinvertebrate sampling was also conducted in 1984 and 1985 in the same locations that the 1984-1985 fish population sampling was conducted (Chadwick & Associates 1986). Macroinvertebrate diversity was higher above the reservoir, but density and biomass were approximately six to nine times higher below the reservoir (Table 6). Above the reservoir, Ephemeroptera (mayflies) and Trichoptera (caddisflies) are the dominant macroinvertebrates.

¹³ Personal communication, Bill Atkinson, CDOW Fishery Biologist, to Hal Copeland, Steigers Corporation, December 16, 2004.

Below the reservoir, Diptera (true flies) are most abundant, followed by Ephemeroptera and Trichoptera (Chadwick & Associates 1986).

Instream Flow Incremental Methodology (IFIM) studies of the Williams Fork River conducted in 1985 indicate that, downstream from the reservoir, maximum brown trout habitat for all life stages except spawning (expressed as weighted usable area [WUA]) is present at 30 to 50 cfs, with spawning habitat peaking at 100 cfs (Figure 13) (Chadwick & Associates 1986, Chadwick Ecological Consultants 1997). All habitat values dropped at higher discharge levels, so summer flows tend to produce the lowest relative amount of habitat during the year for all life stages. The IFIM study also used a time series analysis to evaluate trout habitat over 12 months in wet, dry, and average years¹⁴. WUA for all brown trout life stages is lowest in June and July in average and wet years and lowest in August in dry years. Habitat for adult brown trout is greatest during the winter low-flow period.

Table 6. Macroinvertebrate Summary Data for Sites above and below Williams Fork Reservoir

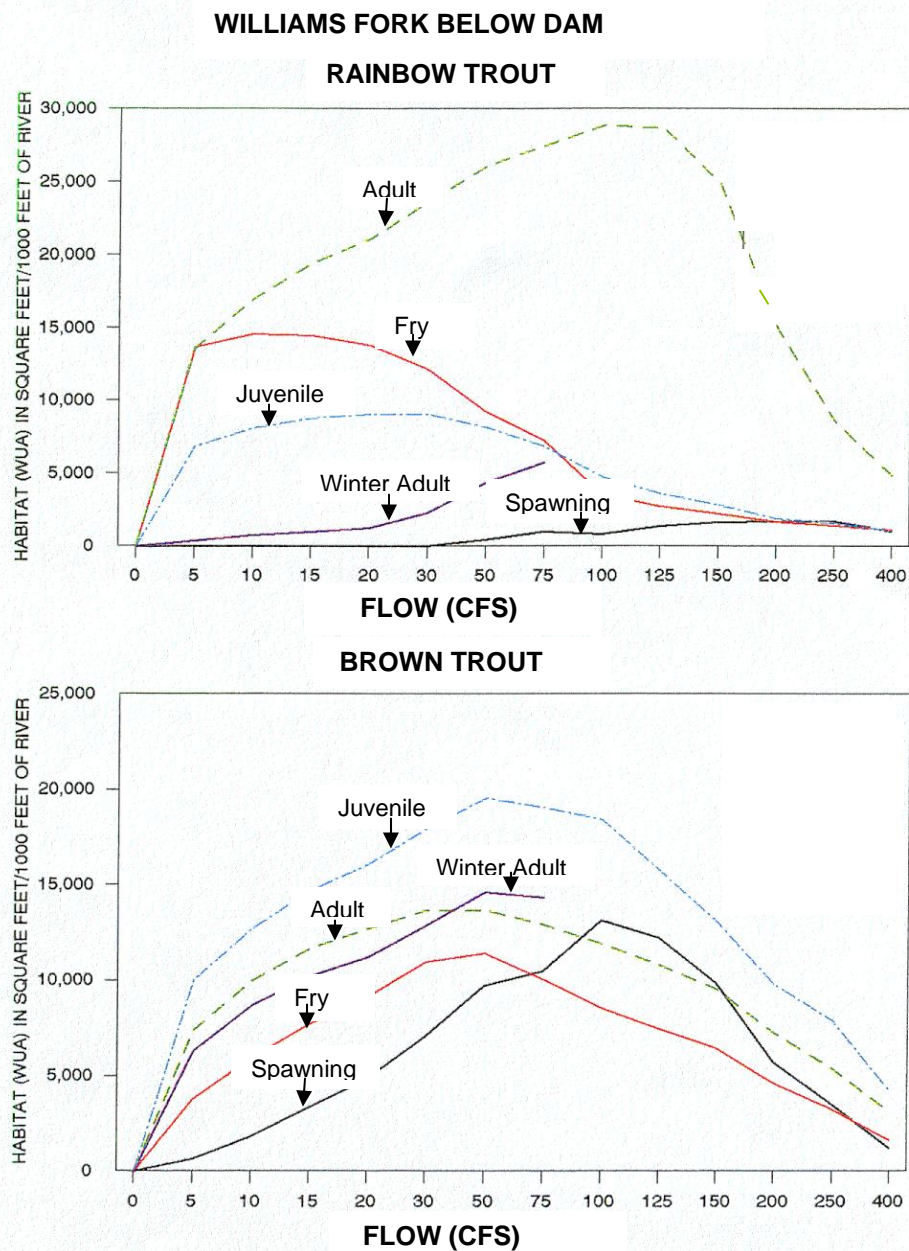
	Fall 1984 and 1985*			Spring 1985		
	Number of Taxa	Density (Number per Square Meter)	Biomass (Grams per Square Meter)	Number of Taxa	Density (Number per Square Meter)	Biomass (Grams per Square Meter)
Above Reservoir	26	1,940	5.43	35	3,448	17.43
Below Reservoir	20	9,265	48.77	22	12,179	114.13

Note: Data reproduced from Chadwick & Associates 1986, Table 3.4-11, Site WF6 used for above reservoir and Site WF 7 used for below reservoir. * Above Reservoir – 1984; Below Reservoir – 1985.

The 1986 IFIM studies indicate that maximum rainbow trout habitat for spawning is present at discharge levels greater than 200 cfs, with habitat for juvenile and fry life stages peaking at considerably lower discharges (Figure 13) (Chadwick & Associates 1986, Chadwick Ecological Consultants 1997). Adult habitat peaks at 100 to 125 cfs. There is no consistent pattern among flow years for the available summer habitat for any life stage. Habitat for spawning rainbow trout is most limited during the wet and dry years; there is virtually no available spawning habitat in May of a dry year. Rainbow trout adult habitat is most abundant during the winter low-flow period.

¹⁴ An average year was defined as the 28-year average of 1947 through 1974. A dry year was defined as the average of the years 1954, 1955, 1963, and 1964. A wet year was defined as the average of the years 1947, 1948, 1949, 1957, 1965, and 1970. The historical averages were adjusted to represent the full-use demands of the Denver Water collection system (U.S. Army Corps of Engineers 1985). The recurrence intervals for average, wet, and dry years were 1 in 2, 1 in 8, and 1 in 25 years, respectively.

Figure 13. Williams Fork River Rainbow Trout and Brown Trout Habitat (Chadwick Ecological Consultants 1997)



To ensure protection of the aquatic resources of the Williams Fork River below the dam, the existing FERC license requires Denver Water to release a minimum flow of 15 cfs or inflow to the reservoir, whichever is less, from the dam at all times.¹⁵ The license further requires that, whenever downstream senior water rights holders divert Williams Fork River water upstream of its confluence with the Colorado River, Denver Water must release the 15 cfs minimum streamflow in addition to the quantities required by senior decrees. Since the original license was issued, Denver Water has purchased the only senior decree and diversion right in the Williams Fork River below the dam. Denver Water currently leases that diversion right to the CDOW and has entered into an agreement with CDOW that prohibits any diversion of water that would cause the streamflow to be less than 15 cfs below the diversion.

Environmental Impacts

PROPOSED ACTION

Adequacy of Downstream Flows and Water Quality for Trout

During scoping, TU requested that Denver Water assess the adequacy of flows and water quality in the Williams Fork River below the Project with respect to the riverine trout fishery. As indicated in Section V.C.2, projected future full use of the reservoir would result in outflows very similar in quantity and distribution to those modeled for current-use operations (Denver Water 2004b).

The available fish population data show that both rainbow trout and brown trout populations are strong in the Williams Fork River below the Williams Fork Reservoir. Population sampling that included both above- and below-reservoir sites (1984 and 1985) shows that the numbers of both rainbow and brown trout are much higher below the reservoir than above it (Chadwick & Associates 1986). The higher densities below the reservoir were the result of greater numbers of fry and juveniles, which indicates that both brown and rainbow trout populations were self-sustaining in that reach. Recent sampling continues to show strong fry and juvenile components. In contrast, rainbow trout did not appear to be self-sustaining above the reservoir, as no fry or juveniles were found despite the fact that rainbows had been stocked in the area during those years. Brook trout are present above the reservoir and are not stocked, indicating that the brook trout population is self-sustaining. Brook trout do not occur in the Williams Fork River below the reservoir.

The recent sampling data from CDOW (Appendix F) indicate that trout populations continue to be strong in the reach below the reservoir. The influx of brown trout evident in the fall sampling also shows that spawning is occurring in this reach. Macroinvertebrate biomass below the reservoir is several times higher than above the reservoir, indicating that the reach below the reservoir is highly productive, as is typical of deep-release tailrace reaches. Taken together, these data indicate that the flows and habitat conditions are suitable for cold water trout fisheries and are producing high-quality self-sustaining trout populations.

¹⁵ " . . . except during an emergency beyond Denver Water's control or as may be necessary during temporary periods of time involving maintenance or repairs on the facilities."

Comparing the modest flow changes predicted for the full-use demand level (see Section V.C.2) with the habitat vs. flow functions (Figure 13) indicates that flow-related habitat conditions are not likely to change substantially. The only month in which flows are predicted to change by more than 10 cfs is June. The general cropping of both average and maximum flows in May, June, and July would slightly improve habitat conditions during a time when overall habitat is low. Slight increases in average and maximum flows in the winter (January through March) could cause a very minor decrease in available habitat. However, this would occur during a period when average habitat levels are much higher than other times of the year and so would not be expected to have a measurable effect.

The IFIM study shows that modeled average monthly outflows for full use would generally provide good physical habitat conditions for trout (Figure 13) (Chadwick Ecological Consultants 1997). Average monthly summer flows (June through September) range from about 150 cfs to just over 200 cfs and would provide approximately 55 to 70 percent of the maximum possible habitat for fry, juvenile, and adult brown trout. Summer flows would provide more than 70 percent of the maximum habitat for adult rainbow trout but lesser amounts of fry habitat (about 15 percent of maximum) and juvenile habitat (more than 20 percent of maximum). Average October and November outflows would provide near maximum spawning habitat for brown trout, and average winter flows provide near the highest levels measured for adult overwintering habitat for both brown and rainbow trout. Spawning habitat for rainbow trout is limited at all flows, and the average flows in March, April, and May would provide about 50 to 60 percent of maximum habitat available.

Summer outflow temperatures are consistently below the State of Colorado cold water biota standard of 20° C. Monthly temperatures during the summer period range from about 7° C to 10° C, which is within the optimal thermal range for brown trout juveniles and adults (7° C to 19° C). These temperatures are somewhat below the optimal range of 11° C to 18° C for rainbow trout but are well within the tolerance range of 0° C to 25° C. Reservoir temperature profiles indicate that summer temperatures in the reservoir hypolimnion near the outlet valves are and will continue to be suitable for downstream trout populations.

As indicated in Table 2, median temperatures in the Williams Fork River below Williams Fork Reservoir (USGS Station 09038500) (USGS 2004a) are approximately 6° C cooler than in the Colorado River at Hot Sulphur Springs (USGS Station 09034500) (USGS 2004b) during June and July, 7° C cooler in August, and 2.5° C cooler in September. The mean August flow from the Hot Sulphur Springs gage is 280 cfs (1905 through 1994 period of record), and there are no significant flows into the Colorado River or other sources of heating or cooling between there and the confluence with the Williams Fork River. Using 280 cfs at 16° C (Table 2) for the August flow in the Colorado River above the Williams Fork confluence and 204 cfs (Table 3) at 9° C (Table 2) for the August flow in the Williams Fork River, the net thermal effect on the Colorado River would be to reduce its temperature to 13° C. This indicates that the Williams Fork may have a cooling effect on the Colorado River that may serve to help maintain temperatures within the optimal range for trout for some distance downstream. The effect of cooling would likely be less in other months where flows are higher and the respective river temperatures are closer. Thus, releases from Williams Fork Reservoir are likely to provide a modest thermal benefit to the Colorado River during the summer period.

Future operation of the Williams Fork Project will maintain the highly suitable flow and water quality conditions for trout and other cold water biota that currently exist in the Williams Fork River downstream from the reservoir. These conditions will continue to protect the quality tailwater trout fishery that currently exists in this river reach.

Cumulative Impacts

As discussed in Section V.C.2, Williams Fork Reservoir outflows are predicted to have a small positive cumulative impact on Colorado River and Williams Fork River water temperatures. This cumulative positive impact likely results in a cumulative positive impact on downstream rainbow and brown trout fisheries. Because the cooling effect will be diminished in the downstream Colorado River in proportion to the relative flow volumes of the two rivers at their confluence, any related beneficial cumulative impact to trout in the Colorado River would likely be minor. However, the relatively cool temperatures of the Williams Fork River upstream of the confluence may provide seasonal benefits to Colorado River fish populations by providing them a thermal refuge during the late summer.

Minimum Flows

Denver Water currently releases a minimum flow of 15 cfs or inflow to the reservoir, whichever is less, from Williams Fork Reservoir at all times to ensure protection of the aquatic resources of the Williams Fork River below the dam. Although minimum flows can occur in any month, they primarily during spring and summer (March through July). The 15-cfs minimum flow provides good overall habitat conditions for trout. The IFIM results show that 15 cfs provides approximately 65 percent to nearly 100 percent of the maximum potential habitat for fry, juvenile, and adult lifestages of both brown and rainbow trout. The existing trout fishery is a high quality fishery.

During scoping, the CDOW commented that the current minimum flow makes it very difficult to manage a quality trout fishery and recommended increasing the minimum flow below the reservoir from 15 cfs to 25 cfs. CDOW subsequently explained that its recommendation for the additional 10 cfs was intended to compensate for the operation of a 10-cfs diversion right located on the Williams Fork River below the dam. The 25-cfs recommendation was meant to ensure that the current 15 cfs minimum flow remained throughout the entire reach below the dam when the diversion right was operated. However, Denver Water's existing contractual agreement with the water rights lessee effectively maintains 15 cfs throughout the entire downstream reach by prohibiting any diversion of water that would cause streamflow to be less than 15 cfs below the diversion. Denver Water intends to continue this prohibition in the future to satisfy CDOW's concern.

Delivering an additional 10 cfs minimum flow would provide only modest benefits for the downstream Williams Fork River fishery. The IFIM data for the Williams Fork River show that 15 cfs provides 80 to 88 percent of the available habitat that 25 cfs would provide for all brown trout life stages except spawning (Figure 13) (Chadwick Ecological Consultants 1997). The brown trout spawning period (October and November) occurs during a time of substantially higher flows, and raising the minimum flow would likely have little or no effect on available spawning habitat. The lowest average October flow for the 44 years modeled is 59 cfs, and the

lowest average November flow is 71 cfs (Denver Water 2004b). These flows provide high levels of brown trout spawning habitat.

The IFIM data for the downstream Williams Fork River show that 15 cfs provides 94 percent of the available habitat for rainbow trout juveniles and 86 percent of the available habitat for rainbow trout adults that 25 cfs would provide (Figure 13) (Chadwick Ecological Consultants 1997). Available habitat for rainbow trout fry is actually slightly higher (112 percent) at 15 cfs than at 25 cfs. Rainbow trout spawning habitat only becomes available at much higher flows than either of these minimum flow levels, so the difference between minimum flows of 15 cfs and 25 cfs is largely irrelevant for this life stage. Although 15 cfs provides only 50 percent of the available habitat for rainbow trout wintering adults that 25 cfs would, relatively high outflows from the reservoir during most of the winter suggest that minimum flows would rarely be invoked. For example, the lowest average monthly winter flows for the 44 years modeled for the full-use hydrology are 71 cfs for November, 59 cfs for December, 43 cfs for January, and 44 cfs for February (Denver Water 2004b). The lowest average March flow modeled is 18 cfs, which indicates that, in dry years, a 25-cfs minimum flow could provide a modest benefit by increasing overwintering adult habitat during March.

Minimum flows are provided on those occasions when the Williams Fork Project is not releasing greater quantities of water for water supply purposes. As such, an increase in the minimum flow represents a direct adverse effect to the Project in terms of its ability to meet its municipal water supply purposes. Supplying an additional 10 cfs to the minimum flow for one day would require about 20 acre-feet of water that would be lost from storage and would not be available to meet water supply needs. Minimum flows of 15 cfs are projected to occur during the months of April, May, June, and July (see Appendix C). The degree to which the loss of 20 acre-feet of water per day would affect water supply operations is variable and depends on complex interactions among hydrologic conditions, the exercise of water rights in the Upper Colorado River Basin, and municipal water demands during this time. The water supply impact of providing a higher minimum flow would be less in wet conditions than in dry conditions. However, because the Williams Fork Project is used to provide replacement water for other diversions, the storage loss of 20 acre-feet per day at the Williams Fork Project during dry periods is a direct loss of firm yield to Denver Water's supply system. Furthermore, the months of April and May are typically associated with some of the lowest reservoir volumes of the year (Figure 3). A loss of storage in these months could reduce the potential for the reservoir to refill during some years. To maintain the water supply purposes of the Project, replacement water would have to be developed from some other source.¹⁶ The value of this water for municipal water supply purposes is discussed in Section VI.B.

During periods of drought, the loss of 20 acre-feet of reservoir volume per day may have adverse affects on the reservoir fishery and the valuable kokanee fishery. Increased temperatures and stress from crowding would be likely during drought periods when the reservoir would be forced to even lower levels to provide the higher minimum flow. The CDOW has indicated that maintaining reservoir volume is important to its management goals, especially during drought

¹⁶ It is likely that there would be substantial adverse environmental impacts associated with developing or utilizing a new alternative water source; e.g., building a new storage reservoir or expanding an existing reservoir would likely affect water resources, stream flows, and land uses.

periods. Denver Water has consulted with CDOW during recent drought periods to discuss ways to preserve reservoir volume and protect the kokanee fishery in the reservoir.

Based on the habitat considerations described above, raising the minimum flow to 25 cfs would provide only minimal benefits to the downstream trout fishery. Maintaining the existing 15-cfs minimum flow in the Williams Fork River below the reservoir will continue to provide suitable habitat levels for brown trout and rainbow trout during all life stages without additional adverse effects on the reservoir fishery. As part of the overall downstream flow regime, the 15-cfs minimum flows will continue to protect the high-quality tailwater trout fishery that has developed under the 15-cfs minimum flow.

Ramping Rates

During scoping, the CDOW and TU commented on the importance of appropriate ramping rates to minimize the potential for adverse downstream effects from excessive short-term flow fluctuations. Ramping down rapidly can result in fish stranding as the downstream channel is dewatered, and ramping up rapidly can be hazardous to downstream recreationists. The magnitude of any such potential impacts in the Williams Fork River under current project operations has not been quantified. Although Denver Water considers aquatic resources in its ramping procedures, it does not employ specific ramping limitations in its current operations.

Studies and reviews of stranding generally show that fish stranding potential is related to several factors, including species, life stage and size, season, time of day, and a number of river-channel morphology characteristics. Available literature suggests that salmon and anadromous salmonid species tend to be more susceptible to adverse ramping effects than trout species (Bradford et al. 1995). Some studies have concluded that down-ramping at rates greater than 2 inches per hour can cause stranding (Hunter 1992), while other studies have found that down-ramp rates of 6 inches per hour appear not to cause stranding (Irvine 1987).

Denver Water has developed the following ramping rate guidelines to protect aquatic resources and public safety below Williams Fork Reservoir (Table 7). A 20 percent margin for reservoir outflow changes has been included to allow for the imprecise and essentially empirical nature of attempting to adjust relatively small amounts of water by means of very large valves. The CDOW has concurred with these ramping rate guidelines.¹⁷

These ramping guidelines are expected to be met most of the time. However, these release rates can only be regulated by discharges through the reservoir's operating valves (i.e., the powerhouse penstock or the river outlet works), not by means of spillway releases. In addition, these ramping rate guidelines do not apply during emergencies; maintenance project requirements; mechanical failures; operations constrained by water rights; electrical power system upsets; State Engineer, federal, or other governmental authority controlling operations; special requests for streamflow accommodations; or efforts to manage floods, forest fire impacts, river ice, or water quality issues. These exemptions to the ramping rate guidelines are consistent with exemptions from the South Platte Protection Plan that TU helped develop.

¹⁷ Personal communication, Jay Skinner, CDOW, to Kevin Urie, Denver Water, May 4, 2004.

Table 7. Ramping Rate Guidelines for Williams Fork Reservoir Releases to the Williams Fork River

Reservoir Outflow Rate	Maximum Flow Rate Change	Approximate Stage Change*
15 to 50 cfs	25 cfs/hour \pm 5 cfs	0.15 inch/cfs and 3.8 inches/hour
51 to 125 cfs	50 cfs/hour \pm 10 cfs	0.07 inch/cfs and 3.7 inches/hour
126 to 250 cfs	75 cfs/hour \pm 15 cfs	0.06 inch/cfs and 4.5 inches/hour
>251 cfs	100 cfs/hour \pm 20 cfs	0.04 inch/cfs and 4.1 inches/hour

* Based on stage-discharge data from USGS Station 09038500 (USGS 2004a) using the target flow rate change (see Appendix G).

The rate of stage change for the proposed ramping rates is generally limited to 3.5 to 4.5 inches per hour. This rate of change is in the mid-range of down-ramp rates found in the literature that were thought to reduce the stranding potential for trout species. The USGS gage used to calculate the stage change is located in the uppermost section of the reach, and the river channel in this section is bedrock-confined and more incised than the sections below this reach. Therefore, the calculated stage changes are likely to be representative of the maximum potential stage changes for the entire reach. The high productivity of benthic macroinvertebrates and the high numbers of fry and juvenile trout in the downstream Williams Fork River reach suggest that current ramping practices are having little effect on fish and invertebrate populations. Operating the Williams Fork Project according to these ramping guidelines will protect the downstream fishery resource from adverse effects of excessive short-term flow fluctuations and provide for public safety in the downstream river reach and would possibly enhance fish and macroinvertebrate populations.

Entrainment

Fish entrainment is often a concern associated with the operation of hydroelectric projects, but there is no evidence to suggest that it is a problem for the Williams Fork Project. There have been no known anecdotal reports or any direct evidence of fish injuries or mortalities below the dam over the past 45 years. Furthermore, the CDOW has not raised any issues related to fish entrainment from operation of the Williams Fork Project.

The apparent lack of fish entrainment and mortality at the Williams Fork Project may be related to the behavior of the various fish species relative to the depth of the penstock intake that serves the turbine. There is a significant depth of water over the penstock intake, which is 107 feet below the level of the spillway crest and approximately 66 feet above the bottom of the reservoir at that point. The low water temperatures and occasional low D.O. concentrations at this depth are not attractive habitat for fish communities in the reservoir. The various fish species generally occur in the following parts of the reservoir: northern pike (near shore), white suckers (bottom), and rainbow trout (surface) (CDOW 2001b). CDOW sonar surveys indicate that kokanee salmon suspend off the bottom at depth at night and, during the summer, seek thermal refuge below the thermocline at approximately 45 feet below the water surface to digest their food. These factors appear to reduce the potential for fish entrainment at the Williams Fork Project.

The addition of the small turbine-generator unit would slightly increase the amount of flow passing the Project through its hydroelectric turbines. Theoretically, this would slightly increase the potential for fish mortality as a result of turbine passage. However, because resident fish populations are generally not using the portion of the water column near the intake, there would be minimal or no impact associated with the addition of the new turbine. No other changes in project operation are proposed that would cause entrainment to become a problem. Continuation of current reservoir operating procedures will protect the Williams Fork Reservoir fishery resource.

ACTION ALTERNATIVE

As in the Proposed Action, virtually no impacts on fishery resources are anticipated from future operation of the Williams Fork Project under the Action Alternative. The same hydrology and general operation of the Williams Fork Project under the Proposed Action would also apply to the Action Alternative. Consequently, the same types and magnitude of impacts to fishery resources would occur from future operation under the Action Alternative as are described above for the Proposed Action.

Operating the Williams Fork Project according to the future hydrology under the Action Alternative would maintain the highly suitable flow and water quality conditions that currently exist in the Williams Fork River downstream from the reservoir and that would occur under the Proposed Action. These conditions, including the 15-cfs minimum flow and the ramping rate guidelines proposed for future operations under both the Proposed Action and the Action Alternative, will protect the robust tailwater trout fishery that uses this river reach. The addition of the small turbine-generator unit would not occur under the Action Alternative, and fish entrainment and mortality impacts are not anticipated under the Action Alternative.

NO-ACTION ALTERNATIVE

No adverse impacts on fishery resources are anticipated from future operation of the Williams Fork Project under the No-Action Alternative. The ramping rate guidelines proposed for future operations under both the Proposed Action and the Action Alternative would not be instituted because no new environmental protection, mitigation, or enhancement measures would be implemented under the No-Action Alternative. The same effects on fishery resources would occur under the No-Action Alternative as are described above for the Proposed Action, except that potential enhancements to downstream fisheries and public safety from the ramping rate guidelines would not occur.

Operating the Williams Fork Project under the No-Action Alternative would maintain the highly suitable flow and water quality conditions that currently exist in the Williams Fork River downstream from the reservoir. These conditions, including the 15-cfs minimum flow, will protect the robust tailwater trout fishery that uses this river reach. As with the Proposed Action, fish entrainment impacts are not anticipated under the No-Action Alternative.

4. Terrestrial Resources

Affected Environment

Vegetation

The Williams Fork Project is located in Middle Park, one of several large mountain basins in Colorado. The climate of Middle Park is characterized by long, cold winters and short, cool summers with low to moderate precipitation (BLM 1983). Partial to full drought conditions occur frequently enough to be a baseline characteristic to which the native vegetation in Middle Park is adapted.

The valley floor of Middle Park is dominated by steppe vegetation characterized by extensive mountain grasslands and large stands of sagebrush (BLM 1983). Soil conditions, low precipitation, and cold temperatures make this area generally unfavorable for tree growth. Mountain grasslands occur in situations that are too dry for spruce and fir and too cold for ponderosa pine (Mutel and Emerick 1992). Sagebrush shrublands generally occupy sites that are somewhat less dry than the grasslands, there excluding trees by competition (Mutel and Emerick 1992). The few trees that are present occur on higher ground or rocky outcrops where coarser soils favor their establishment. The grassland communities are dominated by grasses and also support a large number of forb species and scattered shrubs. Sagebrush shrublands in Middle Park are dominated by mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), often in association with a number of other shrubs and a variety of grasses and forbs. Middle Park also contains riparian ecosystems dominated by shrub willows.

The area within and around the Williams Fork Project is dominated by upland sagebrush shrubland habitat. This common habitat type covers most of the land surrounding the reservoir from the FERC project boundary to the reservoir's edge. Mountain big sagebrush averaging approximately 3 feet high and upland grasses, including wheatgrasses, fescues, bluegrasses, indian rice grass, and needle-and-thread, constitute the primary vegetation. These sagebrush stands may include other shrubs such as rabbitbrush, antelope bitterbrush, and snowberry, as well as a wide variety of subshrubs and native forbs. This upland vegetation type is consistent with the dry, sandy soils of the area.

The sagebrush stands occupying west-facing slopes of Cedar Ridge on the northeast side of Williams Fork Reservoir include modest concentrations of juniper (aka "cedar"), and, the west-facing slopes of the Williams Fork River canyon downstream from the dam support stands of juniper, blue spruce, and Douglas fir with tree canopy cover typically less than 20 percent.

Some sites along the south and west shores of Williams Fork Reservoir are areas of low relief typified by sagebrush uplands with a variable band of grasses (primarily smooth brome) extending downslope to the reservoir or, in some case, grading into emergent vegetation along the shore. These meadows occupy somewhat moister sites of a subirrigated nature that appear to be the result of alluvial seepage from adjacent shallow hillsides or of seasonal inundation.

The Williams Fork River immediately upstream of the reservoir meanders through a rather broad floodplain, and the vegetation of the associated riparian corridor contrasts

dramatically with the common upland sagebrush habitat of area. The riparian corridor supports a diverse community of emergent wetland vegetation, grasses, shrubs, and trees in intermingled willow thickets and wet meadows. Although this important riparian habitat extends for several miles along the Williams Fork River upstream of the reservoir, only about 7 acres associated with the reservoir inlet actually occur within the FERC project boundary. The riparian corridor below the reservoir is much narrower and is characterized by steep, rocky banks of the bedrock canyon and by upland sagebrush habitat.

A small wet meadow along the southern perimeter of the reservoir west of the Williams Fork River is supported by return flows from irrigated agriculture. This meadow and the small amount of emergent wetland vegetation at the reservoir inlet are the only established wetland areas adjacent to the reservoir shoreline and within the FERC project boundary.

A noxious weed survey of the Williams Fork Project was conducted during the summer of 2003 to aid in identifying and assessing potential resource risks associated with continued operation of the Williams Fork Project (Steigers 2004b). Noxious weed populations were delineated and mapped using GPS technology (Figure 14). As a whole, the Williams Fork Project supports well-developed native sagebrush/grassland vegetation that is largely free of weeds. However, noxious weeds and common weeds were encountered at disturbed areas, including public access sites, in specific moist, grassy areas and wet meadow habitat types at the Project, and on spoil piles related to ongoing erosion control activities at the Project.

Wildlife

The BLM reports 287 species of terrestrial wildlife as occurring in the Kremmling Resource Area (Middle Park and North Park), including 220 birds, 60 mammals, 7 amphibians, and 1 reptile (BLM 1983). A list of species that use the area within the Williams Fork FERC project boundary and the surrounding area is provided in Table 8, below. This list is based on documented wildlife observations and on information provided by the CDOW.

A wildlife habitat survey of the Williams Fork Project was conducted during the summer of 2003 to aid in assessing potential resource risks associated with continued operation of the Williams Fork Project (Steigers 2004c). The majority of the area within the FERC project boundary is dominated by upland sagebrush shrubland habitat. This habitat is particularly important to wintering mule deer and elk, as it provides browse during seasons when forage for these species is not available in their high-elevation summer ranges. Cedar Ridge is a known migration route for wintering mule deer and elk, and the entire area around the Williams Fork Reservoir is designated as winter range for both mule deer and elk (Figures 15 and 16). Furthermore, northern portions of the area within the FERC project boundary, including Cedar Ridge, are designated as severe winter range for both species. Severe winter range is essential to herd sustenance during winters with unusually heavy and prolonged snow conditions when adjacent winter range resources are unavailable or inaccessible. The CDOW manages the region in which the Williams Fork Project is located as big game habitat.

Figure 14. Williams Fork Project Noxious Weed Site Map

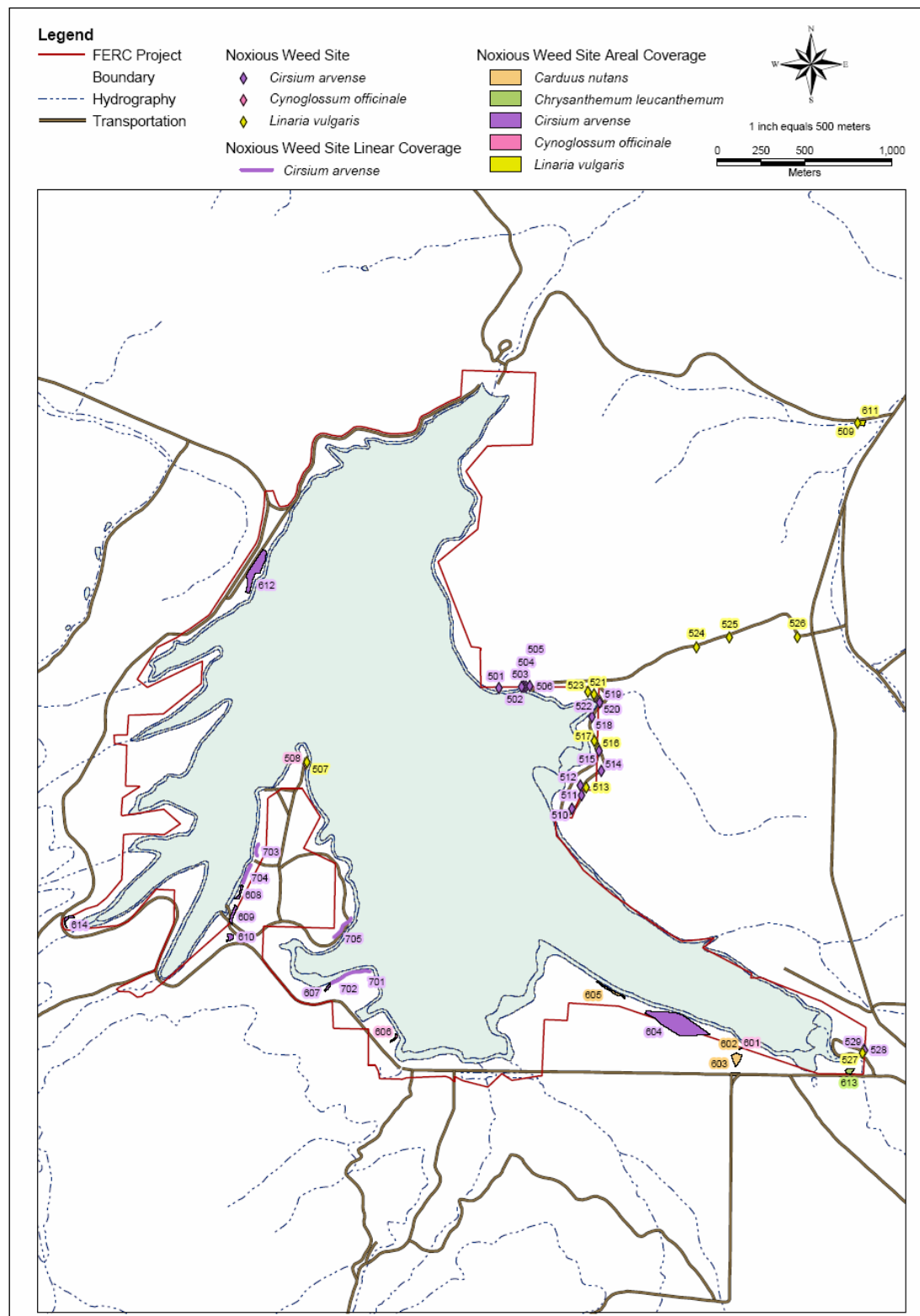


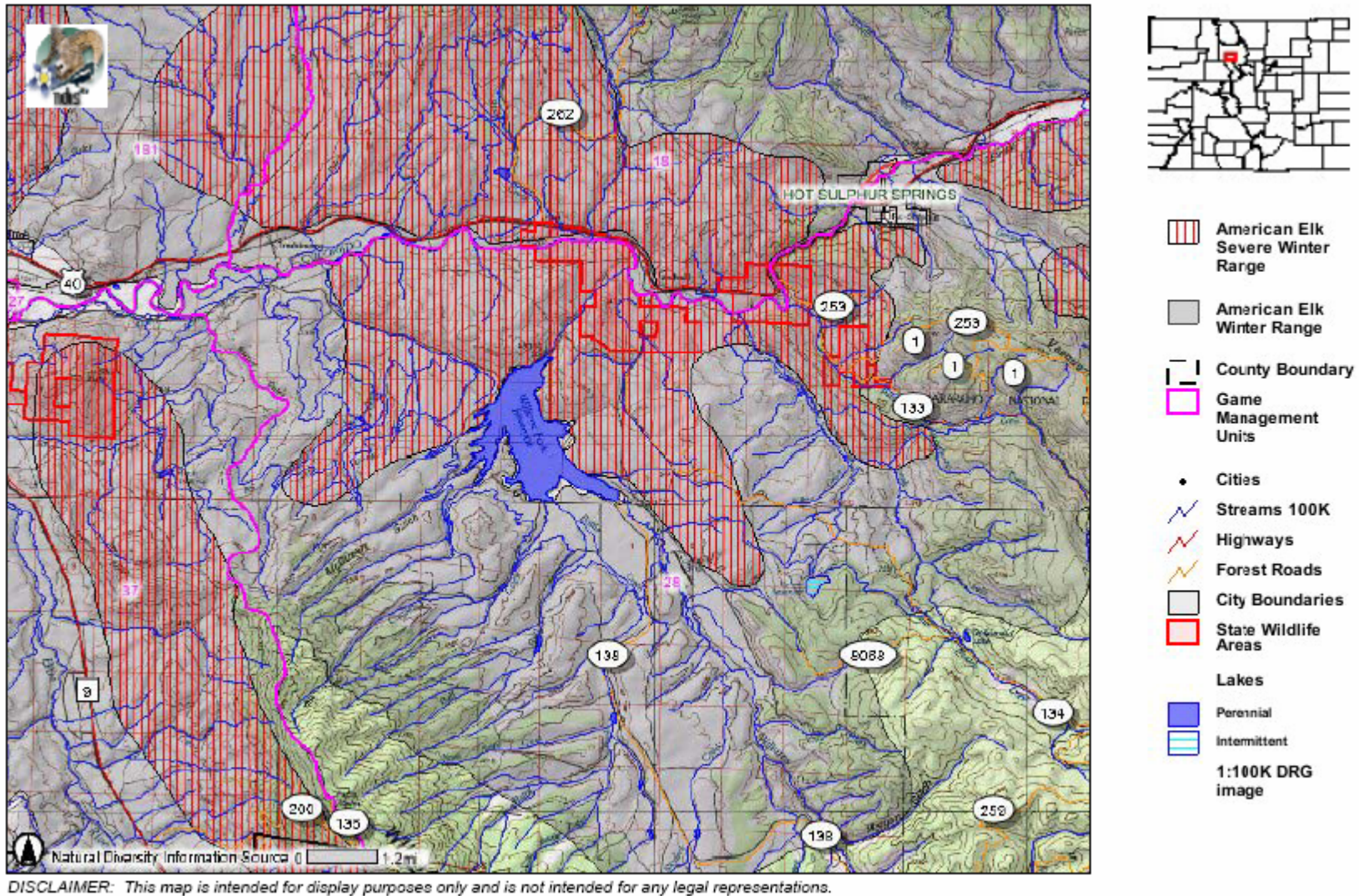
Table 8. Wildlife Use of the Area in and around the Williams Fork Project

Common Name	Scientific Name	Species Use
Mule Deer	<i>Odocoileus hemionus</i>	Throughout Williams Fork Project as winter range, Cedar Ridge serves as a migration route
Elk	<i>Cervus elaphus</i>	Throughout Williams Fork Project as winter range, Cedar Ridge serves as a migration route
Pronghorn Antelope	<i>Antilocapra americana</i>	Throughout Williams Fork Project upland sagebrush habitat
Sage Grouse	<i>Centrocercus urophasianus</i>	Individuals periodically observed within the FERC project boundary, three leks are located 1-4 miles from reservoir
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Winter range located along Williams Fork River downstream from reservoir and Colorado River riparian corridors
Richardson Ground Squirrel	<i>Spermophilus richardsonii</i>	Throughout Williams Fork Project
Mountain Lion	<i>Felis concolor</i>	Individuals observed in region
Bobcat	<i>Lynx rufus</i>	Individuals observed in region
Black Bear	<i>Ursus americanus</i>	Individuals observed in region
River Otter	<i>Lutra Canadensis</i>	Individuals observed in region, upstream of reservoir in Williams Fork River
Beaver	<i>Castor canadensis</i>	Individuals observed in region, upstream of reservoir in Williams Fork River
Mink	<i>Mustela vison</i>	Individuals observed in region

Other wildlife species supported by the sagebrush habitat include pronghorn antelope, small mammals, and birds, including sage grouse. Small mammals commonly associated with the sagebrush community are the masked and wandering shrew, whitetail jackrabbit, Richardson's ground squirrel, and northern pocket gopher. Migratory songbirds that are fairly common within the sagebrush mountain grassland are the mountain bluebird, Virginia's warbler, western meadowlark, and lark bunting.

Sage grouse, which have been identified by CDOW as a declining species, depend almost entirely on the sagebrush ecosystem for successful breeding, nesting, and winter survival. They occupy the region surrounding the Williams Fork Project, and potentially suitable brood and production areas occur nearby. Three sage grouse leks (communal display grounds) have been identified between 1 and 4 miles from the Williams Fork Reservoir. Although suitable sage grouse habitat exists within the FERC project boundary, there have been few observations of

Figure 16. Elk Winter Range Map for Vicinity of Williams Fork Project (CDOW-NDIS).



sage grouse using these habitats. These observations are limited to sage grouse feeding on emergent vegetation along the shoreline during times of low reservoir water levels.

The riparian corridor of the Williams Fork River upstream of the reservoir provides variation from the common upland sagebrush habitat in the form of willow thickets and wet meadows. This habitat supports deer, elk, river otter, beaver, and a variety of bird life.

Excellent habitat for a wide variety of waterfowl and shorebirds is provided by the various aquatic habitats of Middle Park. Waterfowl, including geese, pelicans, and many species of ducks, and wading birds, including great blue heron and black-crowned night heron, are seasonally present at Williams Fork Reservoir. During the fall of 2001, the CDOW observed 27 greater sandhill cranes along the reservoir shoreline west of the inlet area. Ospreys are also known to occur at the reservoir. Bald eagles' use of the Williams Fork Reservoir and the Williams Fork River downstream from the dam is discussed in Section V.C.5

Environmental Impacts

PROPOSED ACTION

Only very minor impacts on vegetation or wildlife resources related to the continued operation of the Williams Fork Project are anticipated under the Proposed Action. Minimal removal of vegetation will take place in association with the minor reconfiguration of the east-side campground, but this will occur at sites within the campground facility that have already been developed, are dominated by weeds, and do not possess any particular value as wildlife habitat. In addition, activities related to archaeological site recovery work (see Section V.C.7) and to subsequent erosion control efforts (see Section V.C.1) in the same general area will result in removal of a small amount of native vegetation and potential wildlife habitat. These areas will be reclaimed and revegetated in conjunction with final site restoration associated with the erosion control work. The reclaimed area is expected to provide a higher habitat value for wildlife than the area currently provides. Measures to limit excessive development of informal roads and dispersed shoreline recreation sites (see Section V.C.8) will protect and enhance native vegetation and wildlife habitat elements and preserve the natural qualities of the Project.

Denver Water is or will be addressing a number of ongoing conditions resulting from past and current operation of the Project, as follows.

Noxious Weeds

Two species of noxious weeds encountered at the Williams Fork Project (Canada thistle and yellow toadflax) are abundant at the east-side and peninsula campground/boat launch sites, and two other noxious weed species (houndstongue and musk thistle) occur at these facilities at low frequencies. Both of these access sites also support a variety of common weeds. The occurrence of weeds at these recreation sites is related to removal of native vegetation and disturbance of soils associated with the high degree of pedestrian and vehicular use of these sites. The resource risk associated with the presence of these noxious weeds is primarily to the quality of these sites in terms of public enjoyment and aesthetics. An attendant resource risk is the potential for spread of these weeds by seed from these sites to other currently disturbed sites or to other sites that may be disturbed in the future.

Denver Water has developed a program for controlling noxious weeds at Williams Fork Project public access sites. Noxious weed infestations will initially be treated with selective broadleaf herbicides to preserve as much of the associated non-target vegetation and, thus, soil cover, as possible. Treated areas will be re-evaluated periodically and re-treated as necessary. For example, heavily infested areas may need to be treated more than once due to long-lived propagules of some species or to large seed reserves in the soil. Denver Water will conduct revegetation work in areas that are particularly susceptible to erosion of bare soils and to reinvasion by the same or other weed species. Decisions about also controlling common weeds at these sites will consider tradeoffs between making the sites as weed-free as possible and maintaining the soil cover and soil stabilization functions currently provided by such species. This is especially true for the reservoir inlet campground located at the entrance of the Williams Fork River to Williams Fork Reservoir, which, although it supports no noxious weeds, is populated by a diverse community of common weeds. The weed problem at the reservoir inlet will be addressed in the course of the proposed rehabilitation and conversion of the campground site for day-use access only (see Section V.C.8).

The Williams Fork Project caretaker staff is trained and certified to apply herbicides. Having certified applicators on site throughout the growing season allows for site-specific weed control decisions to be made in a timely manner and for weed control activities to take place during the appropriate season and under appropriate weather conditions. Herbicide application protocols necessary to protect public health will be implemented when treating these public access sites.

The largest colonies of Canada thistle encountered at the Williams Fork Project do not seem to be the result of site disturbance but rather to the invasion of healthy native range or meadow communities in response to a favorable moisture regime. These sites are not heavily used by recreationists or even probably observed very often by the public, and so the presence of Canada thistle does not currently pose a resource risk in that sense or, consequently, warrant its control at these sites.

The potential for spread of Canada thistle from these sites by seed is an attendant resource risk. However, given the enormously wide distribution of this cosmopolitan weed and the doubtless huge seed reservoir in local and regional soils, the additional contribution of seed from these few sites at the Williams Fork Project is probably not significant. Furthermore, if this type of infestation is, in fact, simply an opportunistic colonization of sites with moisture regimes favorable to Canada thistle, attempts to exclude it from such sites would likely prove to be futile. No treatment to exclude Canada thistles from these range and meadow communities is proposed. However, Denver Water will periodically re-evaluate these weed populations with respect to their size and concurrent or potential future resource risk and, based on results, reassess the need for and/or likelihood of success of implementing weed control measures at these sites.

During scoping, the potential for noxious weed growth on existing spoil piles associated with erosion control work along the southeast shore of Williams Fork Reservoir and the need for control measures were mentioned as potential issues by an adjacent landowner. These spoil piles were surveyed during the noxious weed survey, and no noxious weeds were encountered. However, a wide variety of common weeds, including pennycress, lambsquarters, tumbled mustard, Russian thistle, mullein, kochia, pigweed, creeping knotweed, foxtail, and

others, has colonized these two long piles and the roadway between them. These common weeds actually constitute most of what little vegetative cover the spoil piles currently support.

Until the spoil piles are disposed of as described in Section V.C.1, the existing weeds will be left in place to provide whatever soil-stabilizing benefit they can. The Grand County Noxious Weed Supervisor has recommended that any new spoil piles be stabilized and revegetated at the time of their creation so that they do not become a medium for the establishment of noxious weeds (Sumerlin 2003). Under certain circumstances in which revegetation cannot be timely accomplished, [pre-emergent] herbicides were recommended. This is a less-preferable alternative from a resource standpoint because it would allow for ongoing erosion of bare soils.

Denver Water's proposed noxious weed control measures will improve the quality of the Williams Fork Project campground/boat launch areas and, thus, the quality of visitors' recreation experience. It will also reduce the potential for these weeds to spread to other disturbed sites. Periodic inspections and treatment will guard against reinvasion or expansion of existing populations. Final disposal of the spoil piles and revegetation of the affected area (see Section V.C.1) will minimize the potential for noxious weed invasion at this site.

Sage Grouse

The CDOW has developed the Middle Park Sage Grouse Conservation Plan (CDOW 2001a), a plan that encourages habitat conservation management for sage grouse on public and private lands. Denver Water is a signatory to the plan and voluntarily manages its property surrounding Williams Fork Reservoir in accordance with the plan. Denver Water will continue to participate in the plan and will attempt to manage its property within the FERC project boundary consistent with the plan. This will help preserve suitable habitat for this declining species in an area that is near currently occupied sage grouse habitat and contiguous to other potentially suitable brood and production areas.

ACTION ALTERNATIVE

Only minor impacts to terrestrial resources are anticipated from future operation of the Williams Fork Project under the Action Alternative, and these are the same as described for the Proposed Action. Small amounts of low-value vegetation will necessarily be removed in the course of adding facilities in the east-side campground, and small amounts of native vegetation and potential wildlife habitat will be removed by archaeological site recovery work and by subsequent erosion control efforts. These areas will be reclaimed and revegetated in conjunction with final site restoration and are expected to enhance wildlife values.

Measures to address a number of ongoing conditions resulting from past and current operation of the Williams Fork Project will be addressed under the Action Alternative in the same manner as described for the Proposed Action, including controlling noxious weeds at public access sites and disposing of the existing spoil piles and revegetating the affected area. These and a number of recreation enhancement measures, including converting the reservoir inlet campground site for day-use access only and limiting proliferation of informal roads and dispersed shoreline recreation sites, will protect and enhance native vegetation and wildlife habitat resources at the Project.

Denver Water will also continue to participate in the Middle Park Sage Grouse Conservation Plan under the Action Alternative.

NO-ACTION ALTERNATIVE

Minor impacts to terrestrial resources are anticipated from future operation of the Williams Fork Project under the No-Action Alternative, and these are much the same as described for the Proposed Action. Denver Water would likely complete the erosion control work along the southeastern shoreline of the reservoir because this work was initiated as necessary project maintenance tasks under the existing license. In order to resume the erosion control work, the archaeological site recovery work necessary to clear this area for construction activity (erosion control work) will also need to be completed (see Section V.C.7). Both projects will result in the removal of small amounts of native vegetation and potential wildlife habitat. These areas will be reclaimed and revegetated in conjunction with final site restoration.

No impacts to Williams Fork Project terrestrial resources would occur from campground renovation because no new environmental protection, mitigation, or enhancement measures would be implemented under the No-Action Alternative. The level of enhancements to Williams Fork Project terrestrial resources will be less under the No-Action Alternative than under the Proposed Action or the Action Alternative. Measures to protect and enhance native vegetation and wildlife habitat resources at the Project will not be implemented under the No-Action Alternative, including controlling noxious weeds at public access sites, converting the reservoir inlet campground site for day-use access only, and limiting proliferation of informal roads and dispersed shoreline recreation sites.

Denver Water would continue to participate in the Middle Park Sage Grouse Conservation Plan under the No-Action Alternative as part of continued operation under the terms and conditions of the existing license.

5. Threatened and Endangered Species

Affected Environment

The USFWS has indicated that six species federally listed as threatened or endangered might occur in the Williams Fork Project area or might be affected by project operations (USFWS 2004). These species include one plant, Osterhout milk vetch (*Astragalus osterhoutii*); one bird, the bald eagle (*Haliaeetus leucocephalus*); and four fish species, Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), humpback chub (*Gila cypha*), and bonytail chub (*Gila elegans*) (USFWS 2004).

The USFWS also mentioned the boreal toad (*Bufo boreas boreas*) as a potentially sensitive candidate for federal listing as threatened or endangered (USFWS 2004). While such species have no legal protection under the ESA, the USFWS prefers that project impacts to candidate species be considered in case they are proposed or listed in the future. There are currently no species proposed for listing in Colorado.

Osterhout Milk Vetch

Osterhout milk vetch is a member of the pea family that is federally listed as endangered. It is endemic to a small area in Grand County, mostly a single creek drainage, and, for that reason, it is considered critically imperiled in the state and globally (NatureServe 2003, Spackman et al. 1997, USFWS 1992). It is restricted to soils high in selenium and is found on barren badlands in clay soils derived from shales. No necessary badlands habitat exists in the immediate vicinity of the Williams Fork Project, and no individuals or populations of Osterhout milk vetch are known to occur there.

Bald Eagle

The bald eagle is federally listed as a threatened species, and the riparian corridor associated with reaches of the Colorado River near the Williams Fork Project provide important wintering habitat. The Colorado River near the Williams Fork Project has a well-developed riparian floodplain supporting many large, mature and over-mature cottonwoods that can serve as perch trees for foraging in the Colorado River. Stands of coniferous trees that occupy the steep hillside south of the river may provide roosting habitat. The CDOW believes that the concentration of bald eagles in the riparian corridor of the Colorado River immediately upstream and downstream from its confluence with the Williams Fork River is among the highest observed in Colorado (Steigers 2004c). From 1997 through 2003, an average of approximately 13 bald eagles was observed annually along the Colorado River reach nearest the Williams Fork Project. Bald eagles have also been observed along the Williams Fork River north (downstream) of the reservoir between the dam and the Colorado River. In 1998 and 1999 (the only 2 years for which the Williams Fork River downstream from the dam was surveyed), one bald eagle and two bald eagles, respectively, were observed in that reach.

In contrast to the habitats along the Colorado River and the lower Williams Fork River, the immediate vicinity of the Williams Fork Reservoir is dominated by upland sagebrush habitat, with no suitable perch trees to use for foraging. No individuals have been observed using Williams Fork Reservoir itself or the area within the FERC project boundary, which is consistent with the lack of suitable perch trees around the reservoir and the low potential for open-water foraging conditions at the reservoir during the winter.

Fish

The Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub are federally listed as endangered. The USFWS believes that major causes of the decline of these species include the effect of impoundments and water depletions to the Colorado River and its tributaries (USFWS 2004).

The current ranges of the Colorado pikeminnow and the razorback sucker extend from the upper end of Lake Powell upstream in the Colorado River to Palisade, Colorado. Critical habitat for these species has been designated within the 100-year floodplain of the Colorado River in this reach and for another approximately 50 miles upstream to Rifle, Colorado. The designated critical habitat includes the so-called "15-Mile Reach," which is not only considered to provide extremely important spawning and adult habitats for these species but has also been determined

by the USFWS to be affected by water depletions more than any other reach of the Colorado River. Many of the recovery actions associated with the Colorado River endangered fish target the 15-Mile Reach. Williams Fork Reservoir is approximately 150 miles upstream of the designated critical habitat for these species. No suitable habitat for the Colorado pikeminnow or the razorback sucker occurs in Grand County.

The current ranges of the humpback chub and the bonytail chub extend as far upstream on the Colorado River as De Beque Canyon, Colorado, and as far upstream as Black Rocks, Utah (near Moab), respectively. Critical habitat for both of these species has been designated in two Colorado River reaches in Utah. Williams Fork Reservoir is approximately 175 miles upstream of De Beque Canyon and approximately 240 upstream of Black Rocks. No suitable habitat for the humpback chub or the bonytail chub occurs in Grand County.

Boreal Toad

The boreal toad is currently listed as a candidate species. The southern Rocky Mountain boreal toad occupies forest habitats between approximately 7,500 and 12,000 feet in Colorado, southeast Wyoming, and north-central New Mexico. During the course of a single year, boreal toads occupy three different types of habitat: breeding ponds, summer range, and overwinter refugia. All three of these habitats occur within lodgepole pine or spruce-fir forests. Distribution is restricted to areas with suitable breeding habitat in lodgepole pine, spruce-fir forests, and alpine meadows. Breeding takes place in shallow, quiet water in lakes, marshes, bogs, ponds, and wet meadows (USFWS 2001).

Although the boreal toad is known to occur in Grand County, the Williams Fork Project and vicinity do not support the lodgepole pine or spruce-fir forests required as boreal toad habitat. No observations of this species have been documented at the reservoir or in the immediate area.

Other Species

Although not identified by USFWS as occurring within the influence of the Williams Fork Project, three other federally listed species either occur in Grand County or have historical ranges that include Grand County. These species are the Canada lynx (*Lynx canadensis*), the yellow-billed cuckoo (*Coccyzus americanus*), and Penland beardtongue (*Penstemon penlandii*). However, the Williams Fork Project does not include habitat necessary to support any of these three species. Canada lynx (threatened) requires specific habitat characteristics often associated with boreal forests (Quinn and Parker 1987), including a cold and moist climate and a predominance of spruce and fir trees. The yellow-billed cuckoo (candidate for federal listing) requires large blocks of riparian habitat for nesting (66 Federal Register 38611-38626). Penland beardtongue (endangered) occurs only along Troublesome Creek in Grand County (54 Federal Register 29658-26663).

Species on the State of Colorado endangered species list that might occur in the project area include the western burrowing owl (*Speotyto cunicularia*) (state-listed as threatened). This species usually nests in prairie dog towns. It is not known to occur at or in the immediate vicinity of the Williams Fork Project, nor is there suitable habitat for it there.

Environmental Impacts

PROPOSED ACTION

Denver Water has initiated informal ESA, Section 7 consultation with the USFWS, including development of a BA to assess potential impacts of the Williams Fork Project (Steigers 2004e) on federally listed species. The draft BA has been submitted to USFWS, and the following discussions summarize the findings of the BA

Osterhout Milk Vetch

Suitable habitats for Osterhout milk vetch do not occur at or in the immediate vicinity of the Williams Fork Project. The badlands necessary to support the Osterhout milk vetch are lacking, and no observations of this species have been documented at or near the Williams Fork Project. Therefore, continued operation of the Williams Fork Project will have no effect on Osterhout milk vetch.

Bald Eagle

Williams Fork Reservoir does not provide either suitable perch trees or open-water winter foraging conditions for bald eagles, and bald eagles have not been observed using Williams Fork Reservoir or the area within the FERC project boundary. However, bald eagles do use the downstream Williams Fork River and the Colorado River riparian corridors as wintering habitat, and depletions to the Colorado River associated with Williams Fork Project may impact prey fish species in the Colorado River. For this reason, the Williams Fork Project "may affect, but is not likely to adversely affect" bald eagles.

Fish

The USFWS has identified instream flows, physical habitat, and the biological environment as the primary constituent elements of critical habitat for the endangered Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub. Physical habitat and the biological environment are site-specific features of the critical habitats designated for these species far downstream from the Williams Fork Project and would not be affected by Williams Fork Project. However, the Project would cause depletions to Colorado River system streamflows, and this aspect of project operations could have an effect on these federally listed fish species.

Denver Water has quantified Williams Fork Project depletions to the Colorado River system. Under full-use operation of the Williams Fork Project, net depletions will total 27,475 acre-feet annually, including evaporation from Williams Fork Reservoir and consideration of other diversion facilities for which the Project provides replacement water. All water depletions attributable to operation of the Williams Fork Project are considered to be "continuing, historical depletions" for purposes of Section 7 consultation under the ESA.

The 1999 Programmatic Biological Opinion found that depletions to the Colorado River would adversely impact the four federally endangered fish species in the Colorado River (USFWS 1999). Therefore, the BA concluded that future operation of the Williams Fork Project

"may affect, and likely will adversely affect" individuals, populations, and critical habitats of the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub.

Denver Water has entered into a Recovery Agreement with the USFWS that provides for mitigation of effects on the four federally endangered fish species, pursuant to Section 7 of the ESA, of all of Denver Water's historical depletions to the upper Colorado River (USFWS 2000). Under the Recovery Agreement, Denver Water has committed to generally supporting the *Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin* (USFWS 1987), including implementation of specific recovery elements in the program. By having a signed Recovery Agreement, Section 7 consultation under the ESA for depletion effects from the Williams Fork Project is governed by the *Final Programmatic Biological Opinion for Bureau of Reclamation's Operations and Depletions, Other Depletions, and Funding and Implementation of Recovery Program Actions in the Upper Colorado River above the Gunnison River* (1999 Programmatic Biological Opinion) (USFWS 1999).

In the Recovery Agreement, the USFWS agreed that implementation of the recovery elements of the 1999 Programmatic Biological Opinion would avoid the likelihood of jeopardy and adverse modification of critical habitats under Section 7 of the ESA for depletion impacts caused by Denver's water facilities. USFWS also agreed that, except as provided in the 1999 Programmatic Biological Opinion, no other measure or action would be required or imposed on Denver Water regarding its water facilities' depletion impacts or other impacts covered by the 1999 Programmatic Biological Opinion.

Therefore, implementation of the Colorado River Recovery Program, which Denver Water has agreed to support under the Recovery Agreement, will provide mitigation for impacts to the four endangered fish species.

Cumulative Impacts

Colorado River instream flows are among the primary constituent elements of designated critical habitat for the endangered Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub. Colorado River water depletions are cumulative adverse impacts shared among the many existing and proposed projects upstream of the designated critical habitats that consumptively use Colorado River or divert it elsewhere. The Williams Fork Project will continue to contribute to these cumulative adverse impacts. These impacts to endangered fish critical habitats are mitigated in part by Denver Water's support of the *Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin* (USFWS 1987) through its Recovery Agreement with the USFWS, including implementation of specific recovery elements in the program.

Boreal Toad

Suitable habitats for the boreal toad do not occur at or in the immediate vicinity of the Williams Fork Project. The forest types required as boreal toad habitat are lacking, and no observations of this species have been documented at or near the Williams Fork Project. Therefore, the continued operation of the Williams Fork Project will have no effect on the boreal toad.

Other Species

Suitable habitats for Canada lynx, the yellow-billed cuckoo, Penland beardtongue, and the western burrowing owl do not occur at or in the immediate vicinity of the Williams Fork Project. The boreal forests necessary to support the Canada lynx are lacking, as are large blocks of riparian habitat required by the yellow-billed cuckoo for nesting and prairie dog towns with which burrowing owls are often associated. Penland beardtongue is only found on unusual soils that occur at some distance from the Project. No observations of these species have been documented at or near the Williams Fork Project. Therefore, continued operation of the Williams Fork Project would not have an effect on these species.

ACTION ALTERNATIVE

Water depletions to Colorado River system streamflows constitute the only aspect of Williams Fork Project operations that could have an effect on the four federally listed Colorado River fish species. Depletions could also affect fish species in the Colorado River that serve as prey for bald eagles that use the downstream Williams Fork River and the Colorado River riparian corridors as wintering habitat. The same depletion-related impacts predicted for the Proposed Action would also be predicted for operation of the Williams Fork Project under the Action Alternative. That is, future operation of the Williams Fork Project under the Action Alternative "may affect, and likely will adversely affect" individuals, populations, and critical habitats of the Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub and "may affect, but is not likely to adversely affect" bald eagles. Other federally listed threatened and endangered species and candidates for listing would not be affected by operation of the Williams Fork Project under the Action Alternative because no suitable habitat for them occurs there.

As with the Proposed Action, the likelihood of jeopardy and adverse modification of critical habitats under Section 7 of the ESA for water depletion impacts are avoided through Denver Water's participation in implementation of the recovery elements of the 1999 Programmatic Biological Opinion.

NO-ACTION ALTERNATIVE

Because the same hydrology for future operation of the Williams Fork Project under the Proposed Action would also apply to its operation under the No-Action Alternative, the depletion-related impacts on federally listed threatened and endangered species and candidates for listing of the No-Action Alternative would be identical to those described above for the Proposed Action and the Action Alternative.

6. Scenic Resources

Affected Environment

Middle Park as a whole is a broad mountain basin of diverse landscape features. Ancient geological activity and climatic conditions have alternately built up and weathered down the landscape, creating canyons, isolated peaks, rocky outcrops, rounded hillsides, flat valleys, and

waterways (BLM 1983). Many of the more dramatic landscapes occur along the Colorado River, from the dark, steep-walled Byers Canyon to the east and Gore Canyon to the west to the barren badlands that rise above the town of Kremmling. In many of these areas, the river is bordered by large cottonwood trees, and, where the river runs through a broad floodplain, the valley floor is occupied by large hay meadows. In the northwest, isolated mountain peaks present rocky south faces and forested north faces. Various components of this scenery may be observed by visitors traveling to Williams Fork Reservoir.

However, the predominant character of this large intermountain basin is of open, rolling terrain covered with grass and sagebrush, and this is the nature of the landscape surrounding Williams Fork Reservoir. Around the south and west sides of the reservoir, the uniform bright green of cultivated hay fields contrasts with the grey-green of the ubiquitous sagebrush. From the county road that follows close to the south and west shores of the reservoir, the scenic character of the immediate area is dominated by the reservoir itself in the foreground, with the surrounding sagebrush-covered hills to the east constituting the middleground and horizon. On Cedar Ridge, which forms the northern one-third to one-half of this vista, the sagebrush shrubland is dotted with scattered juniper trees.

From the east, Williams Fork Reservoir can be seen only from the access road to the east-side campground/boat launch area, by recreationists using that area or hiking along or above the eastern shoreline, or from the few private residences on the terrace above the southeast shore. From the east side, the scenic character of the area is also dominated by the reservoir in the foreground, with low sagebrush- and aspen-covered hills in the middleground above the west shore and dark, forested mountains on the western horizon. The reservoir cannot be seen from the county road east of the Williams Fork Project because of the intervening hills.

Williams Fork Dam is an evident human-made feature on the natural landscape. However, the level of intrusion is generally low because of the nature of the dam structure, topography, and access. Because freeboard is only a few feet at the normal pool elevation, the dam is barely visible from most sites around the reservoir most of the year. Furthermore, from virtually the entire east and south sides, the dam is obscured from view by intervening topography. The only other permanent human-made features associated with the Project are the two minimally developed campground/boat launch areas on the east and west shores of the reservoir and the other small campground at the reservoir inlet. Their presence is evident primarily to recreationists using them.

Below the dam, the Williams Fork River cuts through the bedrock, forming a deep canyon between the gentle east-facing sagebrush slope and the steeper west-facing conifer-covered ridge. From this side, the concrete arch of Williams Fork Dam looms imposingly above. Farther down the river, the valley opens up to a vista of sagebrush hillsides and sloping rock outcrops, with the Colorado River floodplain and riparian corridor in the distance to the north. However, this entire area, as well as the northwest side of the reservoir, is closed to public vehicular access and so is only seen by Denver Water employees and the occasional hiker or stream fisherman.

Views of Williams Fork Project facilities, including the reservoir, are limited. No project facilities are visible from federal or state highways, and views of the reservoir from county roads

are mainly limited to those from the south and west sides. Viewers would primarily be recreationists visiting Williams Fork Reservoir, recreationists (e.g., hunters and fishermen) accessing the upper reaches of the Williams Fork River valley upstream of the Project, and rural residents of the surrounding area. Recreation pressure at the Project is high only during June, July, and August, moderate during April, May, and September, and low during the remaining six winter months (see V.C.8). For these reasons, the sensitivity of the Project's visual resources is considered to be low.

The high visual quality of the Williams Fork Project has been maintained by Denver Water's land management practices, especially the low level of development of formal access sites and camping areas.

Environmental Impacts

PROPOSED ACTION

The following discussion includes a number of issues that have been addressed in other sections of the PDEA. Measures to protect native soils and vegetation also provide enhancement of scenic resources at the Williams Fork Project, as discussed below.

Man-Made Intrusion on Scenic Quality

Two long ridges of spoil material created in the process of Denver Water's implementing shoreline erosion control measures (see Section V.C.1) are visible along the top of the terrace bordering the southeast side of the reservoir. These spoil piles are barren except for sparse colonization by common weeds and native plants, and they present an evident topographic contrast with their surroundings. They can be seen by boaters on the south end of the reservoir, by campers using the east-side campground/boat launch area, and by the residents of the adjacent private property.

The erosion control effort is in temporary hiatus pending completion of archaeological site recovery of a recently discovered cultural resources site (see Section V.C.7). Denver Water intends to resume erosion control activities during the spring/summer of 2005. Following completion of the erosion control work, Denver Water will dispose of the spoil piles and will reclaim and revegetate the areas disturbed by the erosion control activities and by the archaeological site recovery work. These restoration efforts will remove an evident man-made intrusion on the scenic quality of the Williams Fork Project and will return the area to a more natural condition.

Overuse of Public Access Areas

Denver Water's general "hands-off" policy regarding recreation activity at the Williams Fork Project has in some cases resulted in some degradation of recreation facilities and landscapes that has affected their scenic quality. The high degree of pedestrian and vehicular use of developed recreation facilities has resulted in the removal of native vegetation, disturbance and compaction of soils, and establishment of common and noxious weeds, all of which adversely impact the scenic quality of these access sites. Denver Water has developed a program for controlling noxious weeds at these Williams Fork Project public access sites and will also

undertake, as needed, localized revegetation activities to restore vegetative cover, minimize erosion of bare soils, and prevent reinvasion of these areas by weeds (see Section V.C.4). These actions will improve the visual quality of the Williams Fork Project public access areas.

Dispersed Vehicular Access

Proliferation of dispersed vehicular access to the shoreline for fishing and camping, which is especially evident south of the peninsula campground/boat launch, has resulted in gullying and soil erosion and, thus, localized deterioration of scenic quality. Denver Water proposes to implement a program of selective closures designed to curtail existing upland erosion and to moderate or limit further encroachment on undisturbed sites, along with informational signs encouraging responsible use and protection of Williams Fork Project resources (see Section V.C.1 and V.C.8). These actions will protect and enhance Williams Fork Project scenic qualities by preventing impacts to soils, native vegetation, wildlife habitats, and landscapes.

ACTION ALTERNATIVE

The potential impacts on Williams Fork Project scenic quality described above for the Proposed Action are each the result of current and/or ongoing project-related activities, i.e., man-made intrusion on scenic quality (current), overuse of public access areas (ongoing), and dispersed vehicular access (ongoing). The type and magnitude of these impacts are tied specifically to the land management and land use practices that would be implemented in the future. Under the Action Alternative, Denver Water would implement the same land use practices and offer each of mitigation/enhancement measures discussed above for the Proposed Action, and so the impact on scenic quality under the Action Alternative would be identical to the impact on scenic quality under the Proposed Action.

NO-ACTION ALTERNATIVE

As discussed for the Action Alternative, potential future impacts on scenic quality at the Williams Fork Project are the result of current or ongoing project-related activities. Measures to protect and enhance soils and native vegetation and, consequently, scenic resources at the Project would not be implemented under the No-Action Alternative, including controlling noxious weeds at public access sites and limiting proliferation of informal roads and dispersed shoreline recreation sites. Because no new environmental protection, mitigation, or enhancement measures would be implemented under the No-Action Alternative, current and ongoing impacts on scenic quality would persist in the future. The adverse impact on future scenic quality at the Williams Fork Project would be considerably greater than under the Proposed Action or the Action Alternative.

7. Cultural Resources

Affected Environment

The prehistoric record in the northern Colorado River Basin is divided into four eras: Paleoindian, Archaic, Formative, and Protohistoric, spanning the periods from about 13,400 BP

to AD 1881. The oldest period, the Paleoindian Era (about 13,400 BP to about 7500 BP), was a time of small, highly mobile groups that focused on large mammal (mostly extinct megafauna) procurement and of inter-regional consistency in settlement and subsistence patterns. Within the Paleoindian Era, the Clovis, Goshen, Folsom, and Foothill-Mountain Traditions may be recognized by projectile point types or complexes.

Artifact assemblages of the Archaic Era (about 8350 to about 1950 BP) indicate a change from big-game hunting to broader-based subsistence systems with increased reliance on small game and plant resources. One material “marker” for the transition from the Paleoindian Era is a flourishing of predominantly stemmed and/or notched projectile point types that largely replace the lanceolate forms typical of Paleoindian toolkits. Although there is little conclusive evidence for winter occupation of Middle Park during the Archaic, substantial base camps, small short-term camps, and a variety of special use or extractive camps appear to have been occupied during the warmer months (Metcalf et al. 1991).

The Formative Era (1950 BP to 650 BP or AD 1 to 1300) in Middle Park is characterized as a non-horticultural adaptation in the mountainous regions of the northern Colorado River Basin. The results of archaeological investigations suggest an increase in the human population, increased use of prepared fire pits, and a broadening or intensification of the hunted and gathered subsistence base. As the technology shifted to bow-and-arrow, the variability of projectile point types decreased. The end of the Formative Era is marked by a shift from corner-notched arrow points to side-notched arrow points, which designates the transition into the Protohistoric Era.

The Protohistoric Era (between AD 1300 and AD 1881) covers the period from the end of the Formative Era to the final expulsion of the Utes from Colorado in 1881. Adaptations include a highly mobile settlement pattern for the hunter/gatherers, the use of wickiup shelters, creation of brownware ceramics, and a switch from corner-notched arrow points to side-notched and unnotched arrow points, commonly identified as Desert Side-Notched and Cottonwood Triangulars, respectively. The primary occupants of the area, as documented by early Spanish explorers, were Utes who adapted to a primarily equestrian lifestyle after about 1650 and subsequent to Spanish contact. Some later Protohistoric sites include European trade artifacts.

Europeans first came to the mountains of Colorado in 1761, with a major influx in 1859 related to Colorado's gold rush. In the Williams Fork Project area, historical occupation focused primarily on high country ranching, farming, and prospect mining.

Denver Water conducted a cultural resources survey of the Williams Fork Project during the summer of 2003 to inventory and assess the significance of any cultural resources relative to NRHP eligibility. A search of BLM files and the Colorado Office of Archaeology and Historic Preservation database indicated that seven previous cultural resource investigations had taken place in the vicinity of the Project and that 28 archaeological sites had previously been recorded. Of these, ten sites include areas within the Williams Fork FERC project boundary. Five of the sites within the FERC project boundary had previously been officially determined to be not eligible for the NRHP and were not investigated further. The other five sites within the FERC project boundary were revisited.

The new pedestrian survey was primarily designed to investigate areas within the FERC project boundary that had not been studied during a 1995 survey related to a land exchange between Denver Water and the BLM. Thirteen new prehistoric sites were located, and the five previously recorded sites mentioned above were revisited and re-evaluated. Site density is characterized as high, and large sites are common. The function of most sites is inferred to be procurement and initial preparation of local stone (Kremmling chert and other) for projectile points at knappers' workshops; few finished tools were found. A few sites were prehistoric open camps, one of which may have been a large base camp from which resource gathering excursions could be organized. Another open camp site contains seed beads, percussion caps, and a bullet mold, evidence of a Native American conflict, probably between Ute and Arapaho bands.

An additional five sites that lie within the FERC project boundary but had previously been officially determined to be not eligible were not investigated further.

Of the thirteen new Williams Fork Project sites and the five previously recorded sites evaluated, ten were recommended as not eligible to the NRHP, five were recommended as potentially eligible (need data), and three were recommended as eligible for inclusion on the NRHP (MAC 2004a). The SHPO has concurred with these recommendations, finding that:

- The ten sites that are not eligible to the NRHP consist of sparse lithic scatters with little soil depth and would yield no further information important to prehistory;
- The five potentially eligible sites would need to be tested in order to make a final determination of eligibility;
- The three eligible sites appear to have good soil depth, have diagnostic artifacts, and may yield information important to the prehistory of the area (SHPO 2004a).

Native American tribes that may place religious or cultural significance in sites or locations that may be affected by FERC reauthorization of the Williams Fork Project, including the Eastern Shoshone, Northern Arapaho, Northern Ute, Ute Mountain Ute, and Southern Ute Indian Tribes, were consulted. The Southern Ute Indian Tribe indicated that the Project would have no known impacts to cultural sites sensitive to that tribe (Cloud 2003). The Northern Ute Tribe expressed interest in the Project (Chapoose 2003) and is considered a consulting party under Section 106 of the NHPA. Based on a site visit to archaeological sites at the Project and on the fact that continued operation of the Project will not result in impacts to cultural resources (see below), representatives of the Northern Ute Tribe indicated that they have no specific concerns about the Williams Fork Project (MAC 2004b).

The Williams Fork hydroelectric facilities, including the current dam and the powerhouse and associated facilities, date from 1959. Because they are not over 50 years old, these project features are not considered historic structures and, thus, are not eligible for listing on the NRHP.

Environmental Impacts

PROPOSED ACTION

Data Recovery at National Register-Eligible Site

One of the archaeological sites (site 5GA3222) that the 2003 cultural resources survey recommended as being eligible for listing is located in a shoreline area that has in the past been and is currently subject to bank erosion from normal reservoir wave action (see Section V.C.1). Denver Water initiated erosion control activities in this area in 2002, completing about half of the shoreline stabilization project. Upon discovery of site 5GA3222 in 2003, Denver Water realized that further erosion control activities would likely result in adverse impacts to this eligible historic resource and discontinued further erosion control work. However, without the erosion control activities, part of site 5GA3222 would almost surely be lost to eventual erosion of the reservoir bank.

In order to timely proceed with the needed erosion control measures, Denver Water consulted with the SHPO in developing and implementing a suitable site recovery plan to mitigate potential adverse impacts of the erosion control work. Denver Water contracted with a qualified cultural resources contractor to develop a site recovery research plan, which was submitted to the SHPO for approval, and then to implement site recovery. The SHPO agreed that this was an appropriate process by which to mitigate potential project-related effects to site 5GA3222 (SHPO 2004b).

Denver Water intends to resume erosion control activities during the spring/summer of 2005. Areas disturbed by the erosion control and/or the archaeological site recovery work will be reclaimed and revegetated in conjunction with final site restoration associated with the erosion control work.

Data recovery at site 5GA3222 was completed during the late summer/fall of 2004. This activity effectively mitigates potential adverse impacts to this NRHP-eligible historic property from project-related erosion control activities or, in their absence, from natural erosional processes.

Potential Impacts to Other National Register-Eligible or Potentially Eligible Sites

The only significant construction activities proposed for the Williams Fork Project under the Proposed Action include installing a new generating unit, developing five new campsites, constructing two new vault toilets, and performing minor recreation-site remediation work. The new generating unit would be installed adjacent to the existing powerhouse within the facility's previously developed footprint. The new campsites would be developed entirely within the existing east-side campground, and one new vault toilet would be constructed in each of the east-side and west-side campgrounds. Site remediation work would be conducted within the existing reservoir inlet campground. The cultural resources surveys did not identify any NRHP-eligible or potentially eligible historic sites at or in the immediate vicinity of any of these locations.

The 2003 cultural resources survey concluded that, given the nature of the Proposed Action, no physical impacts are anticipated at any NRHP-eligible or potentially eligible historic

sites within the project boundary due to exemption or relicensing of the Williams Fork Project (MAC 2004a). While the report found no substantive risk to existing sites, it did note that there is a small continuing risk of minor impacts associated with public access and from the continued operation of the Project. Based on review of the 2003 cultural resources survey report and the draft PDEA, the Colorado SHPO has concluded that the NRHP-eligible and potentially eligible sites will not be affected by on-going activities at the Williams Fork Project and, therefore, that no historic properties will be affected by the federal licensing action (SHPO 2004c).

Because none of the Williams Fork Project hydroelectric facilities is over 50 years old and, therefore, considered to be historic, there will be no impacts on NRHP-eligible or potentially eligible project facilities.

No construction or maintenance activities proposed or envisioned under the Proposed Action are anticipated to disturb known historic properties at the Williams Fork Project. Denver Water intends to avoid disturbance of all NRHP-eligible and potentially eligible sites. To this end, Denver Water has incorporated the Williams Fork Project cultural resources site location information into its GIS database and will, thenceforth, use this information in considering the presence and locations of NRHP-eligible and potentially eligible sites within the context of project planning functions. Likewise, the Williams Fork caretaker staff will be provided with the Williams Fork Project cultural resources site maps and will be able to avoid NRHP-eligible and potentially eligible sites in the context of their day-to-day, on-site project operation and maintenance activities. All parties with access to Williams Fork cultural resources site locations will be informed of the confidential nature of this information.

If, for some reason in the future, disturbance of a known NRHP-eligible site cannot be avoided, appropriate mitigation would be developed in consultation with the SHPO. Such mitigation would likely consist of design and implementation of a data recovery plan for the site. The data recovery plan would be developed by a qualified cultural resources contractor and would be consistent with the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (USDOI 1983).

If disturbance of a potentially eligible site cannot be avoided, Denver Water would contract with a qualified cultural resources contractor to undertake further testing to determine if the site is eligible to the NRHP. If the site should prove to be eligible, and with the concurrence of the SHPO, the historic property would be mitigated as described above for NRHP-eligible sites. If the site should prove to not be eligible, no further consideration of the site would be necessary, and the proposed construction or maintenance activity could proceed.

Because all lands within the Williams Fork Project have now undergone surveys for the presence of cultural resources, no further surveys or other work are required prior to ground-disturbing activities (apart from any such activities that might involve known NRHP-eligible or potentially eligible sites, as described above). However, previously unrecorded historic properties, including burial sites, are sometimes discovered during ground-disturbing activities or even in the course of normal project operations (for example, drawdown of the reservoir). Should any previously unrecorded historic properties be discovered during the course of ground-disturbing activities, all work will be suspended, and the SHPO will be notified of the discovery and consulted with respect to survey, evaluation, preservation, or mitigation of the site. Other

discovery situations on project lands will be treated in a similar manner. Work will remain suspended until appropriate treatment of the site has been determined in consultation with the SHPO and until such treatment has been carried out. Alternatively, the ground-disturbing activity could be modified or relocated.

The comprehensive cultural resources surveys that have been accomplished at the Williams Fork Project provide the framework for protection of its historic properties in the future. The procedures outlined above will effectively manage potential effects on historic properties that could occur due to activities associated with operating the Williams Fork Project over the long term. These procedures will protect known, recorded NRHP-eligible and potentially eligible sites and will provide for the appropriate treatment of any previously unrecorded historic sites that may be discovered in the future.

ACTION ALTERNATIVE

Potential impacts to cultural resources at the Williams Fork Project would be the same under the Action Alternative as described above for the Proposed Action. Avoidance will protect known, recorded NRHP-eligible and potentially eligible sites in the context of day-to-day project operation and maintenance and in the context of project planning. Protection, evaluation, and mitigation, as described for the Proposed Action, will also provide for appropriate treatment of any newly discovered sites in the future.

NO-ACTION ALTERNATIVE

Under the No-Action Alternative, Denver Water would continue project operation under the terms and conditions of the existing license.

Denver Water would attempt to avoid known eligible and potentially eligible cultural resources sites even if operating under the No-Action Alternative. Protection, evaluation, and mitigation, as described for the Proposed Action, will also provide for appropriate treatment of any newly discovered sites in the future.

8. Recreation Resources

Affected Environment

The Williams Fork Project is located in Grand County, Colorado, a popular West Slope recreation area. Popular winter activities in Grand County include downhill and cross-country skiing, snowboarding, snowshoeing, dogsledding, and ice fishing, while summer recreationists enjoy mountain climbing, hiking, boating, sailing, fishing, golfing, and horseback riding. Big game hunting is popular in the fall. Resorts, lodges, and dude ranches offer a variety of recreation opportunities, and nearby Arapahoe National Forest provides diverse developed and dispersed recreation. The Arapahoe National Recreation Area, Rocky Mountain National Park, and Indian Peaks Wilderness Area are each within approximately 25 miles of the Williams Fork Project.

The area around the Williams Fork Project is a destination for outdoor activities, primarily fishing and hunting. Hunting is permitted on BLM lands located in western Grand

County and on U.S. Forest Service lands within the Arapaho National Forest. Fishing is permitted at Williams Fork Reservoir and on the Williams Fork River both above and below the reservoir. All lands within the FERC project boundary are owned and managed by Denver Water.

During 2003-2004, Denver Water conducted a year-round Recreation Visitation Study to determine the level of recreation activity at the Williams Fork Project annually and by season. A Recreation Interview Study was also conducted during the summer of 2003 to identify visitor preferences, needs, and observations and to address issues and concerns expressed by on-site recreation visitors.

Public recreation is a key attribute of the Williams Fork Project. In fact, many people relate to the reservoir solely in terms of its providing water-based recreation. Williams Fork Reservoir provides a relatively undeveloped recreation experience. Except for the entry road on the east side of the reservoir, roads and parking lots are unpaved. Camping and picnicking occur at both developed and dispersed sites. Even on days of high visitation, the reservoir does not appear to be overly crowded, and virtually none of the visitors interviewed in 2003 reported overcrowding. Currently, Denver Water manages all recreation at Williams Fork Reservoir using a minimalist approach. No fees are charged, and campsites are filled on a first-come, first-served basis. Denver Water provides trash removal, repairs, and improvements to recreation facilities, as necessary. The vast majority of visitors favor the casual and unstructured nature of the recreation experience at the Williams Fork Project.

In 2003, an estimated 20,954 visitors came to Williams Fork Reservoir between Memorial Day and Labor Day. Heaviest summer use days saw up to 459 visitors. Visitation for the remainder of the following fall, winter, and spring is estimated at approximately 11,096, for a total annual visitation of 32,050 persons.

Interviews with 100 individual visitors during the 2003 summer recreation season indicated that almost 50 percent were from the Denver metropolitan area and 25 percent were from Grand County. Fifty-seven percent were camping at the reservoir, and 85 percent had been to the reservoir before. Seventy-five percent of all visitors reported fishing as the most important attraction. Over 90 percent of all visitors reported that they were satisfied with the type, number, location, and condition of recreation facilities. Ninety-eight percent liked the relatively undeveloped nature of the reservoir and would oppose any efforts to make recreation at the Williams Fork Project more formal or regulated.

Fishing is the dominant recreation activity at Williams Fork Reservoir. According to the visitor interviews, 74 percent of all visitors fish from the shoreline and 50 percent also fish from boats. Other popular activities enjoyed by visitors to the Williams Fork Project are picnicking, walking and hiking, viewing scenery, and generally appreciating nature while engaged in other activities. Ninety percent of summer visitors camp out at the reservoir, either at its developed campgrounds (55 percent) or at dispersed campsites (2 percent). Sixty-four percent of all campers were using recreational vehicles. The ability to park recreational vehicles at dispersed campsites is an attribute that attracts many visitors. During the winter, ice fishing occurs on the reservoir. The use of snowmobiles is allowed on project lands but is prohibited on the ice (reservoir surface).

There are four developed campgrounds at the Williams Fork Project (Figure 17). Two are located adjacent to one another along the eastern shore of the reservoir (herein together referred to as the east-side campground), one is located on the western shore of the reservoir (the peninsula campground), and one is located on the bank of the Williams Fork River just upstream of the reservoir inlet (the reservoir inlet campground). Together these campgrounds offer 47 camping or picnicking sites, most with a parking area, picnic table, and fire grate. Toilets, trash cans, and dumpsters are available in or near each campground.

Two 200-foot-long concrete boat ramps are provided, one at the northern edge of the east-side campgrounds and one at the peninsula campground (Figure 17). Parking for 25 vehicles and boat trailers is provided at a gravel/dirt parking lot at the east-side boat launch. The peninsula boat launch parking area can accommodate 10 vehicles and boat trailers, and additional parking for approximately 25 vehicles is available at the northern tip of the peninsula. Other dispersed parking sites are located in areas of suitable terrain.

Denver Water provides winter recreational access to the Project by removing snow from access roads and parking areas, as needed, at three access points, including the east-side boat launch area, peninsula boat launch area, and the reservoir inlet campground area.

The recreation use study conducted in 2003-2004 concluded that the Williams Fork Project recreation resource, visitors, and site management are generally in balance. The existing campgrounds (also used as picnic sites), boat ramps, parking areas, and shoreline access points are adequate to meet present and future needs. Significant overcrowding was not observed, although, in some cases, recreational vehicles were required to use dispersed undeveloped campsites because the campgrounds were full. The abundance of dispersed sites readily absorbed the overflow. Recreation settings and recreation opportunities were rarely compromised by overcrowding. For the most part, campers provided enough space so as not to infringe on their neighbors and did not disturb others.

Environmental Impacts

PROPOSED ACTION

The results of Denver Water's Recreation Visitation Study and Recreation Interview Study conducted during 2003-2004, as well as the researchers' observations of the condition, use patterns, and adequacy of recreation facilities, were used to develop a Recreation Management Plan for the Williams Fork Project (Steigers Corporation 2004d). The plan's design concept is to continue management of the Williams Fork Project as a relatively undeveloped recreation facility with no significant increase in formality or regulation. The plan recommends continuation of present day activities and facilities, with a few modifications designed to improve the public's recreation experience by:

- Reducing pressure on a few overused sites;
- Enhancing amenities at existing public access sites;
- Providing amenities to meet the needs of physically challenged individuals;

- Limiting proliferation of informal roads and dispersed fishing/camping sites.

Figure 17 identifies the major facility improvements proposed by Denver Water.

Reservoir Inlet Campground

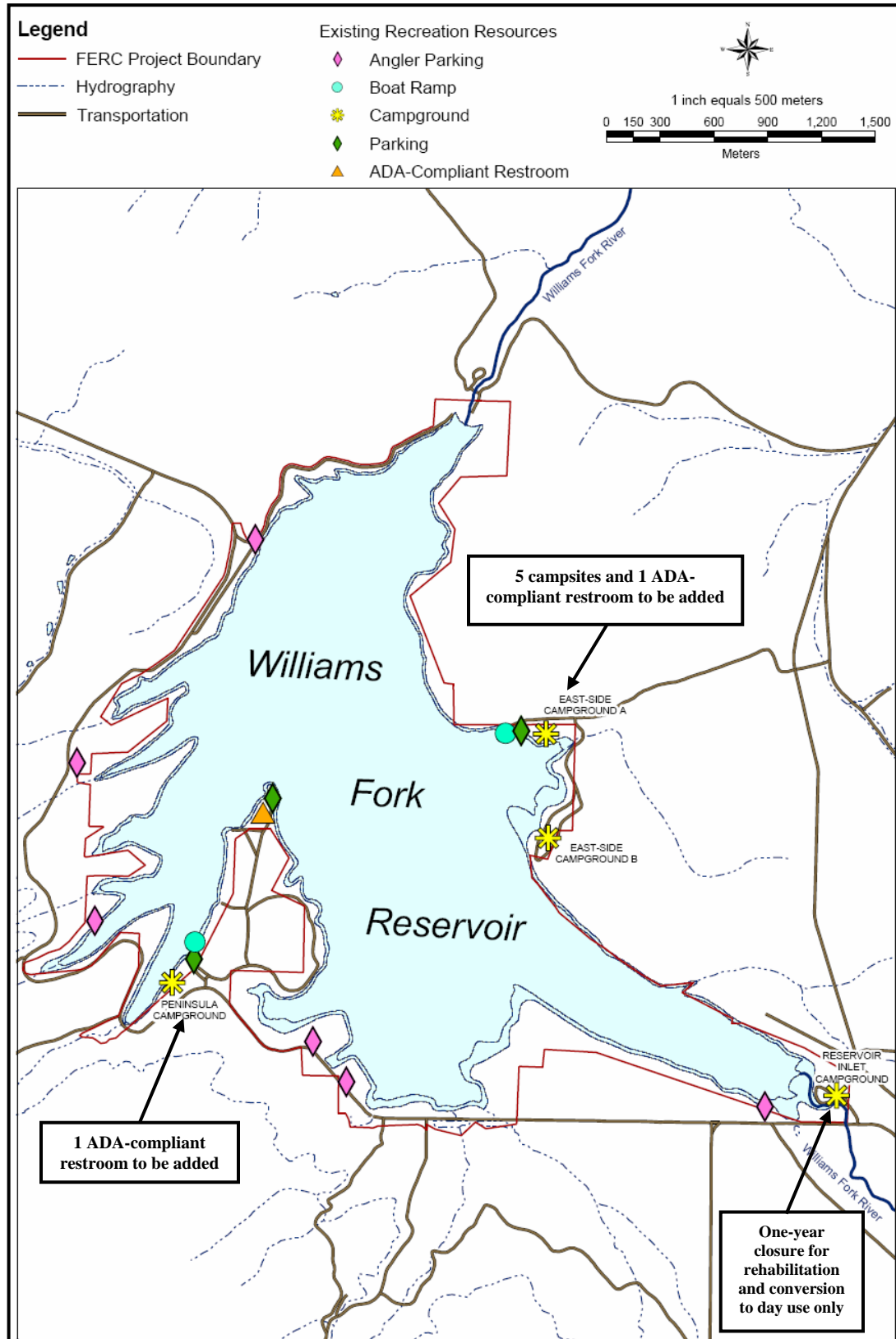
While visitor impacts to natural resources at the Williams Fork Project are generally limited, the intense use of the small reservoir inlet campground has adversely impacted the site. Crowding occurs from combined camping and day-use parking and fishing. The campsites are informal and have been compacted by continual vehicle use triggered by the popularity of this site. Riparian vegetation has been adversely impacted by heavy use, soils have been denuded of native vegetation, and common weeds now dominate the site. There is also a shoreline riverbank erosion problem at the inlet, which has resulted in the full or partial loss of at least two campsites. The potential for significant erosion to continue at this site is high, especially during peak flow events in the Williams Fork River. The eroded bank is also subject to further damage from campers and fishermen who must step 2 feet or more down the steeply cut bank to gain access to the river.

The Williams Fork Project Recreation Management Plan recommends that the reservoir inlet campground area be closed for 1 full year for site restoration. During this time, the riparian vegetation would be rehabilitated, and bare or weedy sites would be reseeded to accommodate foot traffic. Appropriate erosion controls would be designed to stabilize the riverbank, including the installation of gabions or riprap to armor the affected bank (see Section V.C.1). Vehicular access to the campground would be blocked, leaving the parking area near the county road available for day uses at the reservoir inlet. Denver Water intends to initiate site restoration measures at the Williams Fork River inlet in 2006 or following FERC's issuance of the license exemption.

Subsequent to its rehabilitation, the reservoir inlet campground would be converted to day-use access only. Although the existing picnic tables, fire rings, and toilets would be retained for the use of picnickers and fishermen, parking would continue to be restricted to the area near the road, and camping would be prohibited. Conversion of the site for day use only would result in a decrease of five campsites. Their loss would be compensated for by the addition of five campsites to the east-side campground.

Closing the reservoir inlet campground area for a 1-year period will improve the vegetative cover in the area and reduce the potential for additional erosion. Implementing the structural repair at the riverbank erosion site will stop further erosion at this location, and reseeded the construction area will stabilize the area. These measures will improve the quality of the area for future uses. Converting the reservoir inlet campground to day-use access only will relieve the pressure on this site, and restricting parking will prevent further damage to the site by vehicles. These measures will minimize future impacts from the continued operation of the Williams Fork Project.

Figure 17. Williams Fork Project Recreation Resources



East-side and Peninsula Campgrounds

The existing Williams Fork Project campgrounds, boat launches, parking areas, and shoreline access points are adequate to meet current and future needs. However, to compensate for the loss of five campsites in the conversion of the reservoir inlet campground to a day-use only facility, Denver Water proposes to add five campsites to the east-side campground. In response to the concern raised during scoping that siting additional recreation facilities at the south end of the existing east-side campground might negatively impact adjacent private property, Denver Water intends to place the new campsites in the north part of the campground. Creation of the five new campsites will involve minimal land-disturbing activities and minimal removal of vegetation, but this will occur at sites within the campground facility that have already been developed, are dominated by weeds, and do not possess any particular value as wildlife habitat. Reconfiguration of the east-side campground would not exceed its site capacity.

For the convenience of visitors, one new restroom will be installed at the east-side campground and one at the peninsula campground. These vault toilets would replace existing portable toilets or supplement their use. In order to accommodate physically challenged visitors, the restrooms would be ADA-compliant, similar in design to the one currently situated in a dispersed use area near the peninsula campground.

Denver Water intends to implement these facility improvements in 2006 or following FERC's issuance of the license exemption.

Adding campsites to the east-side campground will compensate for the loss of campsites associated with the conversion of the reservoir inlet campground to day-use access only. Locating the campsites at the north end of the east-side campground will prevent adverse impacts to adjacent private property. Installing additional restrooms at the east-side and peninsula campgrounds will enhance access for physically challenged visitors and will improve the quality of the campgrounds for all visitors.

Dispersed Recreation

Williams Fork Reservoir shorelines are open to dispersed recreation and are subject to heavy use. Evidence of dispersed recreation use is especially noticeable south of the peninsula campground/boat launch area where a network of dirt roads provides access to numerous dispersed camping and shoreline fishing sites around the peninsula. In general, recreational vehicles are allowed to go where they wish, and several of these tracks show evidence of resource damage in the form of gullying. Driving on muddy terrain worsens the resource impact. Some informal roads are steep, rocky, and eroded and are not associated with any specific recreation activity other than four-wheel-drive and ATV use.

The level of recreational use along the shoreline itself is also a concern. Adverse site impacts include trampling and removal of vegetation, with the potential for increased soil erosion. Many people park vehicles as close to the shoreline as possible, and serious impacts to shoreline soils and vegetation can result if they drive in mud. Common and noxious weeds may invade these disturbed areas, and their presence is clearly related to removal of native vegetation and disturbance of soils associated with the high degree of pedestrian and vehicular use of these

dispersed access sites. These problems will likely increase at the Williams Fork Project if use of these current dispersed recreation sites increases in the future or if dispersed recreation comes to involve more of the project shoreline.

Based on recommendations of the Recreation Management Plan, Denver Water proposes to implement a program of selective closures designed to curtail upland erosion (see Section V.C.1) and to limit further proliferation of informal roads and dispersed shoreline development at the Williams Fork Project. Two badly gullied roads are targeted for closure by barricade, and signs will be installed restricting motorized travel to existing roads and paths. Other signs placed in appropriate locations will encourage responsible use and protection of Williams Fork Project resources, including soils, native vegetation and wildlife habitats, and landscapes.

Currently damaged shoreline sites will be identified and monitored closely. Their closure to public access may be warranted if ongoing damage worsens.

Barricading damaged roadways will reduce ongoing upland erosion associated with motorized travel and enhance vegetation recovery at affected sites. Restricting travel to existing roadways will limit proliferation of informal roads and dispersed shoreline development at the Williams Fork Project. The proposed signage will improve public acceptance of the closures and promote responsible use of Williams Fork Project amenities. Monitoring shoreline sites will limit future deterioration. These measures will minimize future impacts from the continued operation of the Williams Fork Project.

Snowmobiling

While Denver Water allows snowmobiling on project lands, it does not allow snowmobiling on the reservoir itself. The prohibition is difficult to enforce, and some snowmobiling does occur on the reservoir.

Denver Water has prohibited snowmobiling on the reservoir in the past for several reasons. Water fluctuations at the reservoir throughout the winter have the potential to create hanging ice cover, especially near the reservoir margins, which is of concern because suspended ice may fail easier than ice supported by water. In addition, the risk of causing an ice failure from snowmobile use is somewhat higher than from foot travel alone because snowmobiles create considerably heavier overall load on the surrounding ice and have a much higher effective dynamic weight due to the speed at which they travel. (Guidelines developed by the Minnesota Department of Natural Resources and subsequently adopted by several snowmobile organizations suggest a minimum clear ice thickness of 4 inches for a human and 5 inches for a single snowmobile.) Furthermore, should a snowmobile fall through suspended ice, it would be difficult or impossible for the rider to climb out because of his distance below the ice, and the response time of rescue personnel could be slow due to the remote location of the Project. Thus, allowing snowmobile use on the reservoir would pose an increased risk to public safety.

Winter access to Williams Fork Reservoir, particularly by snowmobile, was identified as an issue during scoping. Scoping comments from Grand County and local residents indicate that many winter recreationists view ice fishing as closely allied to snowmobiling access, and there is

a perception that ice fishing may be constrained by the prohibition of snowmobiling on the reservoir.

Ice fishing is a common winter activity on the reservoir. Ice fishing access is available at both the east-side and peninsula boat launch areas and at the reservoir inlet campground area. Access to these sites is provided by County Road 33, which loops around much of the reservoir. Grand County plows County Road 33 in the winter, and Denver Water plows the access roads to the two boat launch access sites and to the reservoir inlet campground.

Allowing snowmobile use on the reservoir would provide benefits to those ice fishermen who would use snowmobiles to travel to the reservoir and/or to haul their equipment out on the ice. While snowmobiling does make access easier, it also changes the nature of the experience somewhat by introducing noise and motorized travel into an otherwise more natural setting. Racing and other high-speed or high-intensity use of snowmobiles could detract from the natural setting and could conflict with the values some ice fishermen seek.

Snowmobiling is allowed on many of the lakes and reservoirs in Middle Park where ice fishing takes place, including Grand Lake, Shadow Mountain Reservoir, and Lake Granby, all located within approximately 25 miles of the Williams Fork Project. These sites provide abundant opportunities for both ice fishing and snowmobiling, either separately or in combination. These areas are largely developed for residential, vacation, and commercial uses, and snowmobiling is an established and accepted component of winter recreation there. By prohibiting snowmobiling on Williams Fork Reservoir, Denver Water is preserving an alternative to this developed recreational atmosphere, i.e., the opportunity to enjoy the solitary or social activity of ice fishing in a relatively quiet, natural setting. Thus, the Williams Fork Project adds diversity to the regional mix of recreation opportunities.

Denver Water will continue to provide winter access to the reservoir for ice fishing but proposes to retain its policy prohibiting snowmobile use on Williams Fork Reservoir. Denver Water recognizes that some benefits would be realized from snowmobiling but, on balance, believes that there is a greater benefit from preserving the relatively rare winter recreation setting currently offered at the reservoir.

Mainstem Colorado River Recreation Opportunities

During scoping, the BLM questioned whether downstream flows might change in the future in a manner that could affect the extensive recreational use on the mainstem Colorado River, i.e., whitewater boating in the Pumphouse to State Bridge reach, which is heavily used during the late spring and summer seasons. Modeled outflow hydrology can be used to compare current and future outflows from Williams Fork Reservoir to evaluate this concern (see Section V.C.2).

Denver Water is not proposing operational changes that would be expected to adversely affect recreational use on the mainstem Colorado River. Modeling of projected future full use of the reservoir indicates that average annual outflows would be approximately 1.3 percent lower than modeled current-use outflows (Denver Water 2004b). The general trend would be to shift use slightly from several of the higher-outflow months to the lowest-outflow months. However,

average monthly outflows would change less than 10 percent except during June, when modeled future outflows would be approximately 20 percent (39 cfs) lower than modeled current outflows. June is typically the peak flow period for the Colorado River, and the average June flow at the USGS gauge near Kremmling exceeds 3,500 cfs, so an average reduction of 39 cfs would have little effect on June flows for recreation in the Colorado River (USGS 2004c). Average Colorado River flows in May and July exceed 2,000 cfs and would be reduced by 10 cfs or less under future outflows. Average Colorado River flows in August (1,161 cfs) and September (870 cfs) would be increased by 8 or 9 cfs. Considering that the Williams Fork River contributes only a small fraction of the flows in the downstream mainstem Colorado River, the effect of these changes in outflows from Williams Fork Reservoir should be imperceptible in terms of total flow volumes or downstream recreational opportunities.

Operating the Williams Fork Project according to the full-use hydrology will maintain downstream flows at levels that will continue to contribute to supporting current recreation opportunities on the mainstem Colorado River.

ACTION ALTERNATIVE

The potential future impacts on Williams Fork Project recreation opportunities described above for the Proposed Action are each the result of ongoing project-related activities, i.e., overuse of public access areas, effects of dispersed recreation, the snowmobiling issue, and mainstem Colorado River recreation opportunities. Under the Action Alternative, Denver Water would intend to offer each of the mitigation/enhancement measures discussed above for the Proposed Action, and so the net impact on recreation under the Action Alternative would be identical to the impact on recreation under the Proposed Action.

NO-ACTION ALTERNATIVE

As discussed for the Action Alternative, potential future impacts on recreation at the Williams Fork Project are the result of ongoing project-related activities. Measures to protect and enhance recreation resources at the Project will not be implemented under the No-Action Alternative, including efforts to relieve the pressure on certain recreation facilities to improve their quality for future uses, improving campground amenities to enhance access for physically challenged visitors and improve their quality for all visitors, and limiting proliferation of informal roads and dispersed shoreline recreation sites. Denver Water would maintain its current policy prohibiting snowmobile use on Williams Fork Reservoir but would continue to provide winter access to the reservoir for ice fishing.

The same hydrology described in Section V.C.2 for future operation under the Proposed Action would also apply to operation under the No-Action Alternative. Operating the Williams Fork Project according to the full-use hydrology will maintain downstream flows at levels that will continue to contribute to supporting current recreation opportunities on the mainstem Colorado River.

Because no new environmental protection, mitigation, or enhancement measures would be implemented under the No-Action Alternative, ongoing impacts on recreation quality would persist in the future. The adverse impact on future recreation quality at the Williams Fork

Project under the No-Action Alternative would be considerably greater than under the Proposed Action or the Action Alternative.

VI. DEVELOPMENTAL ANALYSIS

Denver Water proposes to add approximately 0.5 MW of generating capacity to the 3.15 MW current installed capacity at the Williams Fork Project. This section analyzes the Williams Fork Project's use of the available water resource to generate hydropower, estimates the cost and power benefits of the Project, estimates the cost of various environmental measures and the effects of these measures on project operation, and estimates the benefits to air quality due to displaced need for fossil-fueled generation.

Estimated costs for the Project and proposed environmental measures were developed by Denver Water. Costs are presented separately for capital and operations and maintenance (O&M). The levelized annual cost has been calculated from the present value of all costs, a long-term interest and discount rate of 5 percent, and a 30-year period of analysis. The cost analysis does not include inflation, escalation, or deflation considerations.¹⁸

A. Power and Economic Benefits of the Project

Denver Water estimates that it would cost \$1,410,000 to build and approximately \$10,000 per year to operate the new hydropower unit under the Proposed Action. The capital cost estimate includes the 0.5-MW turbine-generator unit and appurtenant systems, electrical systems and controls, powerhouse and penstock modifications, design, construction services, permitting, and bonding. These construction costs would only be incurred under the Proposed Action. The average annual power generation from the new unit is estimated to be 847,275 kilowatt-hours (kWh).

The Williams Fork Project has a plant investment value of \$2,201,183 (as of the end of 2003). Most of the current investment value is attributable to runner replacement and generator electrical upgrades made since 2002. Future O&M costs related to the existing hydropower facilities are estimated at approximately \$95,000 per year based on average O&M costs for the Project over the last 7 years (1997 through 2003). The average annual power generation from the existing project is estimated to be 10,722 megawatt-hours (MWh).

In addition to the estimated construction costs, current plant investments, and O&M, Denver Water will have costs totaling approximately \$650,000 for preparation of the hydropower license application and associated studies, including the applicant-prepared PDEA. These licensing costs would be incurred under the Proposed Action or the Action Alternative.

Based on the total capital cost of \$4,261,183 and an annual O&M cost of \$105,000, the Williams Fork Project would have a levelized annual cost of \$382,190. With a projected annual average power production of about 11,570 MWh, the levelized annual cost of power generation at the Project under the Proposed Action would be about 33 mills per kilowatt-hour (mills/kWh).

Without the new hydropower unit, the levelized cost of future power generation of 10,722 MWh under the Action Alternative (including projected plant investment costs and O&M on the

¹⁸ Current FERC policy is to use current costs to compare the costs of the Project and likely alternative power, with no forecasts concerning potential future inflation, escalation, or deflation beyond the date of license issuance.

existing hydropower facilities plus licensing costs) would be about \$280,469 per year, or 26.1 mills/kWh.

The levelized cost of future power generation of 10,722 MWh under the No-Action Alternative (including projected plant investment costs and O&M on the existing hydropower facilities, but not including licensing costs) would be about \$237,187 per year, or 22.1 mills/kWh.

Based on the energy value in Denver Water's existing power sales agreement with Tri-State and an average annual energy generation of 11,570 MWh, the Williams Fork Project would produce energy revenues of about \$171,467 per year (14.8 mills/kWh) under the Proposed Action. In addition, capacity revenues would be about \$159,603 per year, based on a capacity value of \$10.07 per kW-month and an average capacity of 1,321 kW. Therefore, the overall power value (energy plus capacity revenues) would be about \$331,070 per year, or about 28.6 mills/kWh for the Proposed Action.

Under the Action Alternative, the Williams Fork Project would generate an average of 10,722 MWh of energy annually, which would yield energy revenues of about \$158,900 per year and capacity revenues of about \$147,905 per year for an overall power value of \$306,805 per year, or about 28.6 mills/kWh. Annual revenues would be the same for the No-Action Alternative.

Based on the projections summarized above, estimated total costs under the Proposed Action would exceed overall power values of future power generation at the Williams Fork Project by \$51,120 per year, or about 4.4 mills/kWh. Under the Action Alternative, the overall power value exceeds the total costs by \$26,336 per year, or about 2.5 mills/kWh. Under the No-Action Alternative, the overall power value exceeds the total costs by \$68,618 per year, or about 6.4 mills/kWh.

Although the project costs under the Proposed Action exceed the current value of project power, the primary benefit to Denver Water of the Williams Fork Project is for municipal water supply. Hydropower production at the Project adds another beneficial use of the water by generating power from water that would otherwise be released purely for municipal water supply purposes. The addition of the new unit would allow the Project to increase the magnitude of that beneficial use by allowing power production from lower flows and from excess higher flows, neither of which is currently captured by the existing unit.

Denver Water is willing to invest the money for the additional capacity because it would increase the renewable energy produced by the Project and it would allow the FERC to issue a license exemption. Under a license exemption, Denver Water would receive some economic benefit in that no future licensing costs would accrue to the Project.

B. Cost of Environmental Measures

Table 9 lists the costs of environmental enhancement and mitigation measures proposed by Denver Water for the Williams Fork Project. These measures would be undertaken under

Table 9. Cost of Denver Water's Proposed Environmental Mitigation and Enhancement Measures for the Williams Fork Project

Description	Capital Cost	Annual Cost	Total Levelized Annual Cost
Erosion control work along southeast shoreline	\$200,000	0	\$ 13,010
Spoil pile disposal and revegetation	\$ 50,000	0	\$ 3,253
Riverbank erosion control work at reservoir inlet	\$ 15,000	0	\$ 975
Barricade selected roads	\$ 2,000	\$ 500	\$ 630
15 cfs minimum flow	0	no additional cost	0
Operate with defined ramping rates	0	included in O&M	0
Noxious weed control program	0	\$ 2,500	\$ 2,500
Noxious weed monitoring program	0	\$ 500	\$ 500
Participate in Middle Park Sage Grouse Conservation Plan; manage Denver Water property within the FERC project boundary consistent with the plan	0	included in O&M	0
Support implementation of Colorado River Recovery Program for endangered Colorado River fish	0	included in O&M	0
Data recovery at National Register of Historic Property-eligible site	\$150,000	0	\$ 9,758
Avoid National Register of Historic Places-eligible and potentially eligible historic sites	0	0	0
Rehabilitate and convert reservoir inlet campground site for day-use only	\$5,750	0	\$ 374
New and replacement signage	\$1,150	0	\$ 75
5 campsites east-side campground	\$4,310	0	\$ 280
1 ADA-compliant restroom east-side campground	\$28,750	0	\$ 1,870
1 ADA-compliant restroom peninsula campground	\$28,750	0	\$ 1,870
Maintain existing recreation facilities including winter access	0	included in O&M	0
Total Cost	\$485,710	\$ 3,500	\$ 35,095

either the Proposed Action (i.e., added generation with license exemption) or the Action Alternative (i.e., no added generating capacity with relicensing). A detailed description of each of the measures listed in Table 9 is given in the individual resource sections of the PDEA.

Certain of these measures would not be likely to have any significant economic consequences to the Project and, therefore, show a zero cost in Table 9. For example, avoiding NRHP-eligible and potentially eligible historic sites is primarily a project planning function since such sites have already been identified, mapped, and evaluated. Likewise, a number of the listed

measures, such as recreation facility maintenance and others, are currently and/or will in the future be accounted for under project O&M. Still other measures, such as the proposed 15 cfs minimum flow, are continuations of current practices at no additional cost.

The annual project cost of all the proposed environmental measures listed above would be about \$35,355 (equivalent to about 3 mills/kWh). The total annual project cost of all the proposed environmental measures plus the cost of the power with added power generation under the Proposed Action would be about \$417,545, which is equivalent to about 36 mills/kWh. Although the cost of the proposed environmental measures increases the cost of future power, these measures provide valuable benefits through environmental mitigation and enhancements and add value to the comprehensive use of the waterway.

The environmental tradeoffs of a 25 cfs minimum flow are evaluated in Section V.C.3. In addition to the environmental effects, a 25 cfs minimum flow requirement would have a substantial economic impact on Denver Water's municipal water supply operations. On those days in which the project operated at the minimum flow level, it would require about 20 acre-feet of water per day to provide the additional 10 cfs of water. The cost of providing 20 acre-feet of replacement water to meet municipal needs depends on the timing and availability of other water supplies. The only currently available replacement source would water from the Colorado River Water Conservation District's (District) Wolford Mountain Reservoir. The published cost for water from this source is about \$500 per acre-foot or about \$10,000 per day to provide the additional 10 cfs. However, this source cannot be considered reliable because there is no guarantee that the District would agree to provide any additional water to Denver Water for the purpose of replacing East Slope diversions, and, furthermore, such use is the first to be restricted during periods of low water supply.

The cost for Denver Water to develop new water storage capacity would likely exceed \$3,000 per acre-foot, and, the cost to obtain firm yield is estimated to be approximately \$10,000 per acre-foot. Since a minimum flow requirement is in effect during the periods of lowest water availability, providing it would necessarily require firm-yield water. Because Williams Fork Reservoir provides replacement water for other municipal water supply diversions, any reduction in available storage at Williams Fork Reservoir during dry periods is a direct loss of firm yield to Denver Water's water supply. The value of 10 cfs to Denver Water's ratepayers could exceed \$60,000 per day and could be as high \$200,000 per day during drought conditions.

Under the Proposed Action, increasing the minimum flow to 25 cfs would have no substantive effect on power generation because the new unit would be able to generate with either 15-cfs or 25-cfs flows. Under the Action Alternative, increasing the minimum flow to 25 cfs could result in some reduction in power generation from the current situation because more water (25 cfs rather than 15 cfs) would be released at flows that are too low to produce power with the existing equipment. The magnitude of this effect is difficult to quantify since it would be function of hydrology and the water supply operations in any given year. Based on the rating curves for the existing unit and assuming mid-range operating conditions of 60 percent gate opening and a reservoir elevation of 7,770 feet, the power value of 10 cfs would be approximately 2.66 MWh per day, indicating that any effect on power production would be relatively small. While the power losses associated with a 25-cfs minimum flow would be small or nonexistent, the value of this water for municipal water supply purposes far exceeds the

minimal benefits to the fishery, and Denver Water does not propose to increase the minimum flow to 25 cfs.

C. Pollution Abatement

Continued operation of the Williams Fork Project would benefit air quality and the environment because the need for fossil-fueled generation and the resulting pollutants would be avoided or minimized. Based on its current annual average power production, (10,722 MWh), the Williams Fork Project is estimated to displace coal-fired NO_x, SO_x, and CO₂ emissions of 15 tpy, 39 tpy, and 9,915 tpy, respectively. Operating at approximately 11,570 MWh (an approximately 8 percent higher power production rate) with the addition of another small power unit under the Proposed Action, the Williams Fork Project would displace coal-fired NO_x, SO_x, and CO₂ emissions of approximately 16 tpy, 42 tpy, and 10,700 tpy, respectively.

VII. RECOMMENDATIONS OF FISH AND WILDLIFE AGENCIES

Following distribution of the draft PDEA, fish and wildlife agencies will have an opportunity to provide preliminary fish and wildlife recommendations for the project under either Section 10(j) or 30(c) of the Federal Power Act. This section will be developed after receiving any preliminary recommendations from those agencies.

VIII. CONSISTENCY WITH COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA¹⁹ requires the FERC to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. In accordance with Section 10(a)(2), federal and state agencies have filed with the FERC 15 plans for Colorado that address various resources in the state.²⁰ Of these, four plans relevant to the Williams Fork Project were identified.²¹ Two other plans from the FERC list of comprehensive plans addressing resources in the United States were identified that have relevance to the Project.²² No conflicts were found.

In addition to the Section 10(a)(2) plans, four other plans were reviewed.²³ While not designated as qualifying comprehensive plans, these plans address resource concerns for BLM lands and other lands in the vicinity of the Project and in the upper Colorado River system. No conflicts were found.

19 16 U.S.C. § 803(a)(2).

20 Revised List of Comprehensive Plans February 2004. Federal Energy Regulatory Commission Office of Energy Projects, Washington, D.C. 84 pp.

21 (1) Colorado Division of Parks & Outdoor Recreation. 1986. Statewide Comprehensive Outdoor Recreation Plan (SCORP). Denver, Colorado. August 1986. 173 pp. and Appendices; (2) Department of the Army, Corps of Engineers. Omaha District. 1988. Final environmental impact statement for metropolitan Denver water supply (Two Forks dam and reservoir; William Fork gravity collection system). Omaha, Nebraska. March 1988. Five volumes; (3) Fish and Wildlife Service. 1987. Final recovery implementation program for endangered fish species in the Upper Colorado River Basin. Department of the Interior, Denver, Colorado. September 29, 1987. 82 pp.; (4) Fish and Wildlife Service. 1987. Final environmental assessment: recovery implementation program for endangered fish species in the Upper Colorado River Basin. Department of the Interior, Denver, Colorado. November 1987. 143 pp. and appendices.

22 (1) Fish and Wildlife Service. Undated. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, D.C. 11 pp.; (2) National Park Service. 1982. The nationwide rivers inventory. Department of the Interior, Washington, D.C. January 1982. 432 pp.

23 (1) Bureau of Land Management. 1984. Kremmling Resource Area, resource management plan/environmental impact statement. Department of the Interior, Kremmling, Colorado. May 1984. 401 pp.; (2) Fish and Wildlife Service. 1992. Osterhout Milkvetch (*Astragalus osterhoutii*) and Penland Beardtongue (*Penstemon penlandii*) recovery plan. Department of the Interior, Grand Junction, Colorado. September 30, 1992. 16 pp.; (3) Middle Park Sage Grouse Committee. 2000. Middle Park sage grouse conservation plan, undated, 64 pp.; (4) Northwest Colorado Council of Governments. 2002. Regional water quality management plan, 41 pp. and appendices.

IX. FINDING OF NO SIGNIFICANT IMPACT

Based on the environmental analysis presented in this PDEA, issuance of a license exemption for the Williams Fork Project with the proposed enhancement measures would not constitute a major federal action significantly affecting the quality of the human environment.

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XI. LIST OF PREPARERS

Steigers Corporation

Hal Copeland – Project Manager; Fishery Resources; (B.S. Fishery Biology; M.S. Zoology).

Sandra White – PDEA Coordinator; Geology and Soils Resources, Water Resources, Terrestrial Resources, Scenic Resources, Cultural Resources (B.S. Botany).

Jonathon Chesser – Threatened and Endangered Species (B.S. Biology).

Steve Walker – Recreation Resources (B.A. Environmental Biology; M.L.A. Landscape Architecture).

Denver Water

Kevin Urie – Project Manager; Executive Review (B.S. Zoology)

Appendix A

Documentation of Consultation

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80254
Phone (303) 628-6000 • Fax No. (303) 628-6199

July 2, 2001

David P. Boergers, Secretary
Federal Energy Regulatory Commission
888 First St., N.E.
Washington, DC 20426

ORIGINAL

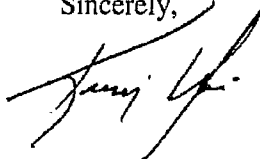
01 JUL -3 PM 2:32
FILED
FEDERAL ENERGY REGULATORY COMMISSION

Re: Williams Fork Reservoir Hydroelectric Project, FERC Project No. 2204:
Transmittal of Notice of Intent Letter to Relicense Project No. 2204

Enclosed please find one original and fourteen copies of Denver Water's Notice of Intent to Relicense the Williams Fork Reservoir Hydroelectric Project in accordance with 18 C.F.R. § 16.6.

Please contact me at (303) 628-5987, if you have any questions.

Sincerely,



Kevin Urie
Planner

Enclosures

010709-0167-3

FERC DOCKETED
JUL 3 2001

CONSERVE

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80254
Phone (303) 628-6000 • Fax No. (303) 628-6199

ORIGINAL

REGULATORY COMMISSION

01 JUL -3 PM 2:32

FILED

July 2, 2001

David P. Boergers, Secretary
Federal Energy Regulatory Commission
888 First St., N.E.
Washington, DC 20426

Re: Notice of Intent to Relicense Williams Fork Reservoir Hydroelectric Project, FERC
Project No. 2204

In accordance with 18 C.F.R. § 16.6, this letter provides notification to the Federal Energy Regulatory Commission that the City and County of Denver acting by and through its Board of Water Commissioners (Denver Water) intends to file an application to relicense its Williams Fork Reservoir Hydroelectric Project, FERC Project No. 2204.

The following information is pertinent:

- (1) The licensee's name and address:

Denver Board of Water Commissioners
1600 W. 12th Ave.
Denver, CO
80204

Attention: General Counsel and Director of Planning

- (2) FERC project number:

#2204

- (3) The license expiration date:

December 31, 2006

- (4) Statement of Intent:

Denver Water will file an application before the FERC either for a new license or for an exemption from licensing for the Williams Fork Reservoir Hydroelectric Project #2204 on or before December 31, 2004.

CONSERVE

Attachment "A"

The names and mailing addresses of Political Subdivisions in the General Area:

1. Every County in which any part of the project is located, and in which any Federal facility that is used by the project is located:

Grand County
c/o Sara L. Rosene, County Clerk
P.O. Box 120
Hot Sulphur Springs, CO 80451-120

2. Every city, town, Indian tribe, or similar local political subdivision, (A) In which any part of the project is located and any Federal facility that is used by the project is located, or, (B) That has a population of 5000 or more people and is located within 15 miles of the project dam:

There are none.

3. Every irrigation district, drainage district, or similar special purpose political subdivision (A) In which any part of the project is located and any Federal facility that is used by the project is located, or, (B) That owns, operates, maintains, or uses any project facility or any Federal facility that is used by the project:

Colorado River Water Conservation District
Eric Kuhn
General Manager
P.O. Box 1120
Glenwood Springs, CO 81602

Northern Colorado Water Conservancy District
Eric Wilkinson
General Manager
P.O. Box 679
Loveland, CO 80539

Notice of Intent to Relicense

Williams Fork Reservoir Hydroelectric Project, FERC No. 2204

July 2, 2001

Page 4 of 4

Northwest Colorado Council of Governments (NWCCOG)

Robert Ray

Director, Watershed Services

P.O. Box 2308

249 Warren Ave.

Silverthorne, CO 80498

Grand County Water & Sanitation District

Bruce Hutchins

Manager

P.O. Box 3077

Winter Park, CO 80482

4. Every other political subdivision in the general area of the project that there is reason to believe would be likely to be interested in, or affected by, the notification:

Town of Granby

Town of Hot Sulphur Springs

Town of Parshall

Town of Troublesome

Town of Kremmling

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

NOTICE OF INTENT TO FILE
APPLICATION FOR A NEW LICENSE

(July 25, 2001)

Take notice that the following notice of intent has been filed with the Commission and is available for public inspection:

- a. Type of filing: Notice of Intent to File an Application for New License
- b. Project No: 2204
- c. Date filed: July 3, 2001
- d. Submitted By: Denver Board of Water Commissioners
- e. Name of Project: Williams Fork Reservoir Hydroelectric Project
- f. Location: State of Colorado, Grand County, on the Williams Fork River.
- g. Filed Pursuant to: Section 15 of the Federal Power Act, 18 CFR 16.6.
- h. Pursuant to Section 16.19 of the Commission's regulations, the licensee is required to make available the information described in Section 16.7 of the regulations. Such information is available from the licensee at Central Records, Denver Water, 1600 W. 12th Ave, Denver, Colorado, 80204.
- i. FERC Contact: Dianne Rodman, 202 219-2830,
Dianne.Rodman@FERC.FED.US
- j. Expiration Date of Current License: December 31, 2006.
- k. William Fork reservoir and power plant, appurtenant facilities, other structures, fixtures, and equipment useful in the maintenance of the project and located in the project area.

- l. The licensee states its unequivocal intent to submit an application for a new license or exemption from license for Project No. 2204. Pursuant to 18 CFR 16.9(b)(1) each application for a new license and any competing license applications must be filed with the Commission at least 24 months prior to the expiration of the existing license. All applications for license for this project must be filed by December 31, 2004.
- m. Copies of this filing are on file with the Commission and are available for public inspection. This filing may also be viewed on the web at <http://www.ferc.gov> using the "RIMS" link, select "Docket#" and follow the instructions (call 202-208-2222 for assistance).

Comments, protests and interventions may be filed electronically via the Internet in lieu of paper. See, 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's web site under the "e-Filing" link.

Linwood A. Watson, Jr.
Acting Secretary

23

CLIPPING SERVICE

Page 12 Thursday, August 30, 2001, Sky-Hi News / Daily Tribune

Williams Fork Res.

up for relicensing

Denver Water, owner and operator of the Williams Fork Reservoir, has applied to the Federal Energy Regulatory Commission for renewal of its license to operate the reservoir's hydroelectric project.

As part of the renewal process, Denver Water is seeking public participation in identifying environmental and recreation issues associated with the reservoir.

In the coming months, Denver Water staff will meet with local, state and federal agencies, as well as with neighbors and recreational users of the reservoir to identify issues of interest.

To participate, call Joe Sloan,

Denver Water community liaison, at 303-628-6320 or 800-610-6393 or visit denverwater.org.

*American
Whitewater*

John T. Gangemi
Conservation Director

August 31, 2001

Mr. David Boergers, Secretary
Federal Energy Regulatory Commission
888 1st Street NE
Washington, DC 20426

FILED
OFFICE OF THE SECRETARY
01 SEP -5 PM 1:41
FEDERAL ENERGY
REGULATORY COMMISSION

RE: Williams Fork Reservoir Hydroelectric Project, FERC Project No. 2204

Dear Mr. Boergers:

Please add the following names to your mail list for all notices pertaining to the Williams Fork Reservoir Hydroelectric Project, FERC Project No. 2204:

John Gangemi, Conservation Director
American Whitewater
482 Electric Avenue
Bigfork, MT 59911

Landis Arnold
6349 Bluebird Avenue
Niwot, CO 80503

Thank you.

Sincerely,

John T. Gangemi
John T. Gangemi

010910-0132-3

Conservation and Access Program: 482 Electric Avenue, Bigfork, MT 59911
Phone 406-837-3155 FAX 406-837-3156 jgangemi@digisys.net

163
FERC DOCKETED

7

**American
Whitewater**

FILED
IN THE SECRETARY
01 OCT 15 PM 3:37
FEDERAL ENERGY
REGULATORY COMMISSION

John T. Gangemi
Conservation Director

September 26, 2001

Mr. David Boergers, Secretary
Federal Energy Regulatory Commission
888 1st Street NE
Washington, DC 20426

RE: Williams Fork Reservoir Hydroelectric Project, FERC Project No. 02204

Dear Mr. Boergers:

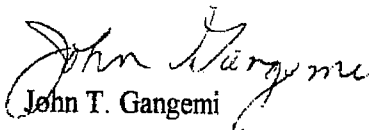
Please add the following names to your mail list for all notices pertaining to the Williams Fork Reservoir Hydroelectric Project, FERC Project No. 02204:

John Gangemi, Conservation Director
American Whitewater
482 Electric Avenue
Bigfork, MT 59911

Landis Arnold
6349 Bluebird Avenue
Niwot, CO 80503

Thank you.

Sincerely,


John T. Gangemi

011019-0167-3

Conservation and Access Program: 482 Electric Avenue, Bigfork, MT 59911
Phone 406-837-3155 FAX 406-837-3156 jgangemi@digisys.net


FERC DOCKETED

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FEB 19 PM 12:24
FEDERAL ENERGY
REGULATORY COMMISSION

John T. Gangemi
Conservation Director

January 15, 2002

Kevin Urie
Denver Water Board
1600 West 12th Avenue
Denver, CO 80204

RE: Williams Fork Reservoir Hydroelectric Project, FERC Project No. 2204

Dear Kevin:

Please add the following names to your mailing list for correspondence regarding the Williams Fork Reservoir Hydroelectric Project, FERC Project No. 2204:

John Gangemi, Conservation Director
American Whitewater
482 Electric Avenue
Bigfork, MT 59911

Landis Arnold
6349 Bluebird Avenue
Niwot, CO 80503

Also, please send a copy of the FSCD and an update on the proceeding since its release to both Landis Arnold and myself at the addresses listed above.

Sincerely,

[Handwritten signature: John T. Gangemi]
John T. Gangemi
Conservation Director

cc: ~~Landis Arnold, FERC~~
Anne Miles, FERC

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Phone 406-837-3155 FAX 406-837-3156 jgangemi@digisys.net

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ORIGINAL

**American
Whitewater**

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FEDERAL ENERGY
REGULATORY COMMISSION

John T. Gangemi
Conservation Director

March 25, 2002

Kevin Urie, Planning Division
Denver Water Department
1600 W. 12th Ave.
Denver Colorado 80204

Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**RE: Comments on the Draft Communications Protocol and Consultation Process
Williams Fork Reservoir Hydroelectric Project, FERC No. 2204**

Dear Mr. Urie:

American Whitewater and Colorado White Water Association (hereinafter referred to as the Whitewater Groups) appreciate the opportunity to work cooperatively with Denver Water (DW) in the relicense process for the Williams Fork Reservoir hydropower project, FERC No. 2404. The Whitewater Groups are unable to support DW's request to use the Alternative Licensing Process based on the presently proposed Communications Protocol. Since the FERC's 1997 rulemaking permitting the use of the ALP there have been a significant number of relicense proceedings adopting this alternate licensing procedure. American Whitewater is an active participant in over a dozen ALP proceedings alone. Through these proceedings we have gained considerable insight on the communications and process protocols that make some proceedings more successful than others. The ALPs that have drafted detailed Communications and Process Protocols are clearly on schedule for receiving a new license in a timely fashion. Those proceedings that failed to properly document the Communications and Process Protocols at the outset are not on schedule and unlikely to receive a new license in a timely fashion due to appeals by disgruntled stakeholders. These proceedings are burdened by dysfunction where the process failed to institute mechanisms for making definitive decisions and resolving disputes. In the long run, these dysfunctional proceedings cost the Licensee more money in the relicensing process due to delays, additional meetings and additional data collection. This dysfunction costs the Whitewater Groups money as well. We prefer to participate in well organized ALPs that deal with conflict in an efficient and fair manner.

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Focusing on a robust Communications and Process Protocol upfront helps build trust among stakeholders. The stakeholders, along with the Licensee, are collectively designing a proceeding that all parties feel compelled to participate in actively. Building this trust upfront is critical for a successful ALP.

The Whitewater Groups recommend that DW review Communications and Process Protocols drafted collectively by stakeholders in other proceedings. These examples will provide a sense of the communications tools and procedures identified for these proceedings to be successful. We recommend you visit the following websites and search for the Communications and Process Protocols approved for each; www.chelanpud.org; www.stanrelicensing.com; www.sce.com/bigcreek; and www.smud.org/relicensing. While visiting these sites also note the webpage design. A key to success in an ALP is the transparency of communications in the proceeding. Posting information on a website accelerates communications by making it readily accessible. The Whitewater Groups encourage DW to develop a website for this proceeding. The goal of the website should be to design a site that allows stakeholders to navigate easily while at the same time archiving all information in this proceeding.

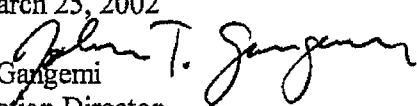
The Whitewater Groups view this proposal as an initial draft by DW for a Communications Protocol. Finalization of a Communications and Process Protocol will require several iterations with comments and recommendations by all stakeholders prior to approving a final version for submission to the FERC. In the next draft, the Whitewater groups would like to see the following communications tools and procedural issues addressed:

- 1) Definition of Consensus based decision making
- 2) Definition of Plenary Group participants and responsibilities
- 3) Definition of Technical Working Groups
- 4) Late participation addressed
- 5) Third Party facilitation
- 6) Proposed decision-making process
- 7) Proposed Dispute resolution process
- 8) Proposed Communications Tools
 - 8a) Website
 - 8b) Documentation of meetings and public comment periods of minutes
 - 8c) Single text approach for decisional documents
- 9) Detailed Procedural Schedule for meetings and PDEA filing

As stated already, the Whitewater Groups highly recommend you review the Communications and Process Protocols for other proceedings. These documents will greatly assist DW in the drafting a second version of the proposed protocols for the Williams Fork ALP rather than reinvent the wheel. In their present form, the Whitewater groups are unable to support a request to use the ALP for the Williams Fork Reservoir hydropower project.

Respectfully submitted

Date: March 25, 2002


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DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80254
Phone (303) 628-6000 • Fax No. (303) 628-6199



April 11, 2002

ORIGINAL

FILED
02 APR 16 AM 10:23
FEDERAL ENERGY
REGULATORY COMMISSION

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Subject: **Williams Fork Reservoir Hydroelectric Project, FERC No. 2204**
Transmittal of Denver Water's response to American Whitewater and
Colorado Whitewater Association's (Whitewater Groups) comments on
Denver Water's use of the ALP

Dear Ms. Salas,

Enclosed is Denver Water's response to American Whitewater and Colorado Whitewater Association's comments, dated March 25, 2002, on Denver Water's letter requesting agreement to use the ALP and proposed Communications Protocol to relicense the Williams Fork Reservoir Hydroelectric Project, FERC No. 2204. I have faxed a copy of this letter to Dianne Rodman and Federal Expressed nine copies to the Office of the Secretary.

If you have questions regarding this transmittal, please contact me at (303) 628-5987.

Sincerely,

Kevin Urie
Relicensing Project Coordinator

Enclosure (1)

FERC DOCKETED

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CONSERVE

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80254
Phone (303) 628-6000 • Fax No. (303) 628-6199

RECEIVED

02 APR 16 AM 10:23

FEDERAL ENERGY
REGULATORY COMMISSION

April 11, 2002

American Whitewater
Attn: John Gangemi, Conservation Director
482 Electric Avenue
Bigfork, MT 59911

Re: Response to Comments on the Communications Protocol for Williams Fork Reservoir
Hydroelectric Project, FERC No. 2204

Dear Mr. Gangemi:

Denver Water received Whitewater Groups' comments, dated March 25, 2002, regarding Denver Water's request to use the Alternative Licensing Process (ALP) and, in particular, the Communications Protocol for the Williams Fork Reservoir Hydroelectric Project, FERC No. 2204 (Project). Denver Water appreciates the suggestions and the references to websites of other FERC licensees; however, Denver Water believes that the majority of Whitewater Groups' specific requests are not appropriate in this Communications Protocol document or for the Project, in general. The following responses correspond to Whitewater Groups' suggestions for the Communications Protocol:

Items 1-7 (Definition of Consensus based decision making; definition of Plenary Group participants and responsibilities; definition of Technical Working Groups; late participation addressed; third party facilitation; proposed decision-making process; proposed dispute resolution process)

According to the FERC Hydroelectric Project Licensing Handbook and FERC regulations at 18 CFR 4.34(i)(3)(ii), the communications protocol serves to govern "*how* the applicant and other participants in the pre-filing consultation process, including the Commission staff, may communicate with each other regarding the merits of the applicant's proposal and *proposals and recommendations of interested entities*" (emphasis added). Denver Water's Communications Protocol adequately provides *how* the participating parties will communicate with each other. The Communications Protocol is not intended to set forth the proposals and recommendations that will arise during the ALP. Defining work groups, decision-making processes, etc. will be determined at an appropriate time, most likely at or after the Initial Scoping meeting.

Furthermore, while the intent behind using the ALP is to reach consensus and go through the pre-filing consultation process with cooperative effort and decision making among the participating parties, it is not mandatory that consensus on *proposals and recommendations* be reached, as much as it is the goal behind the process. Therefore, Denver Water is hesitant to define what consensus would mean, what technical working groups will be necessary, etc., until the proposals and recommendations have been presented. At that time, the logistical and procedural steps of the ALP and the specific issues regarding the Project will be better defined.

Additionally, a majority of these suggestions (items 1-7) are more appropriate in a project of a much larger size and with numerous issues raised by stakeholders, as the websites to which Whitewater Groups refer Denver Water illustrate. Unlike Big Creek, where the communications protocol included certain terms Whitewater Groups would like to see defined in Denver Water's Communications Protocol, Denver Water is not planning seven re-licensing projects at one time. The Williams Fork Project currently generates only 3 MW; it exists solely on Denver Water

property; it is not the primary purpose of the reservoir; and, at this time, the foreseeable issues and the stakeholders involved lead Denver Water to believe that the ALP will be a cooperative, well-managed process, for which the Communications Protocol sufficiently provides how the participating parties are to communicate with each other. Understandably, large hydroelectric projects with many stakeholders and/or numerous on-going re-licensing projects will certainly benefit from Whitewater Groups suggestions 1-7. However, Denver Water believes that in this particular re-licensing effort, providing such definitions and detail regarding the ALP in a communications protocol prior to the Initial Scoping meeting is unnecessary and may make a relatively small project more problematic and timely, defeating Whitewater Groups' reasons for making such suggestions.

Furthermore, should Denver Water's proposals and the recommendations of participating parties require plenary groups, technical working groups, definitions of dispute resolution, third party resolution, etc., Denver Water will have a better sense of such issues during or after the Initial Scoping meeting, at which time the Communications Protocol can be amended or a separate document can be created to provide necessary Project-specific definitions and procedures for the ALP.

Denver Water reviewed communications protocols of other FERC licensees, along with the websites Whitewater Groups suggested, and found that Denver Water's Communications Protocol is sufficient and similar to other projects of this size, it meets the requirements of FERC regulations, and it adequately provides how the participating parties shall cooperate with each other during the ALP.

Item 8 (Proposed communications tools: a) website; b) documentation of meetings and public comment periods of minutes; c) single text approach for decisional documents)

Denver Water will not be creating a website containing documentation for the Project as part of its Communications Protocol. While this is a helpful tool, this process would be timely and costly in comparison to the size of this Project, and providing such information on the internet may cause security-related concerns. Denver Water has entertained the thought of putting a link to the Project on the existing Denver Water website, but this would be for general information and will likely just provide up-to-date information on where in the ALP Denver Water is, and/or a general ALP schedule. The public file that will be available at Denver Water's administration building is being set up as an electronic file, which can be accessed on a computer set up specifically for that purpose. This process will enable the public to search documents by key words. When unable to come to the administration building, the public may also make a request for information, which will be e-mailed or Xeroxed and sent by U.S. mail, depending on the party's request. These processes are already in place, allowing Denver Water to continue the ALP process without the delay of implementing a website for this project, and they provide sufficient access to public information.

Denver Water appreciates Whitewater Groups' suggestion for documentation of meetings (meeting minutes), followed by a review and comment period. Denver Water will include a statement in the Communications Protocol under paragraph B, "Public Meetings," to incorporate this suggestion.

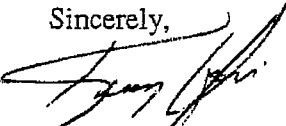
A single text approach for decisional documents is also a helpful tool in the ALP. When this can be done, Denver Water will produce single text decisional documents and will encourage and suggest that participating parties make this effort as well. However, as this suggestion does not apply to *how* the participating parties are to communicate with each other, this is a suggestion that will be more appropriate during the Initial Scoping meeting and other public meetings that follow, particularly as it becomes better known what studies and reports will be required. Therefore, at that time, Denver Water will support Whitewater Groups' suggestion to use single text decisional documents when practicable.

Item 9 (Detailed procedural schedule for meetings and PDEA filing)

Again, Whitewater Groups' suggestion is appreciated, but it is not appropriate for the Communications Protocol document. Denver Water agrees that creating a detailed procedural schedule for meetings and PDEA filing will maintain organization and timeliness in the ALP. However, it is not relevant to the issue of how the participating parties are to communicate with each other during the ALP. Furthermore, at this time, Denver Water could only make a skeleton procedural schedule based primarily on FERC regulatory timelines of the ALP. After the Initial Scoping meeting, Denver Water will have a better understanding of the participating parties' recommendations and Denver Water's proposals on which a detailed procedural schedule can be developed. At that time, Denver Water will provide such information.

Denver Water looks forward to the opportunity to work cooperatively with Whitewater Groups and the other participating parties through the use of the ALP. While Denver Water agrees with most of Whitewater Groups' recommendations for making the ALP a well-organized and efficient process, the suggestions made in Whitewater Groups' comments are either not appropriate for the Project, or they should not be established in the Communications Protocol. Denver Water respectfully requests Whitewater Groups' support of the ALP and the Communications Protocol with the understanding that many of these recommendations are either inapplicable or more burdensome to a project the size of Denver Water's, and that determinations made on what efforts and documentation will be required during the ALP will be better understood and addressed during and after the Initial Scoping meeting. At that time, and as noted above, some of Whitewater Groups' suggestions will be appropriate and will be supported by Denver Water.

Sincerely,



Kevin Urie
Project Coordinator

Cc: Secretary, FERC; Participating parties

~~American
Whitewater~~

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SECRETARY John T. Gangemi
Conservation Director

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FEDERAL ENERGY
REGULATORY COMMISSION

April 16, 2002

Kevin Urie, Planning Division
Denver Water Department
1600 W. 12th Ave.
Denver Colorado 80204

**RE: Proposed Communications Protocol and Consultation Process
Williams Fork Reservoir Hydroelectric Project, FERC No. 2204**

Dear Mr. Urie:

American Whitewater and Colorado White Water Association received your April 11, 2002 response to our comments on the proposed Communications Protocol and request to use the Alternative Licensing Process for the Williams Fork Reservoir Hydropower project relicense proceeding. We provided DWB with specific recommendations for improving the proposed Communications Protocol. DWB feels that our recommendations are too burdensome for this proceeding. Given this unilateral decision lacking collaboration we have no other choice but to oppose your request to use the FERC's ALP for this proceeding. We recommend that DWB utilize the traditional approach for this project.

DWB is correct in their literal interpretation of the legal requirements under the FERC's October 1997 Rulemaking (Order 596) authorizing the use of the Alternative License Process. From a regulatory standpoint the rulemaking simply requires the applicant to demonstrate consent by a majority of stakeholders to the ALP. There is no requirement to file a detailed communications protocol such as we have suggested. However, the discussion included with the FERC's 1997 rulemaking clearly implies that ALPs are intended to promote collaboration among the stakeholders and that collaboration is enhanced through the adoption of process protocols. We firmly believe these protocols should be frontloaded rather than backloaded in the ALP request to the FERC. Frontloading allows stakeholders the opportunity to assess the type of process they are electing to commit time and resources into prior to making the commitment. Without a proposed protocol in place stakeholders are unable to evaluate the time and resources expected of them prior to committing. In the absence of such a protocol we cannot commit staff time and resources.

We agree that some of the protocols we suggested may not be applicable to the Williams Fork project. Determining which protocols are appropriate is difficult when the applicant has provided little if any information on the project. However, we do not

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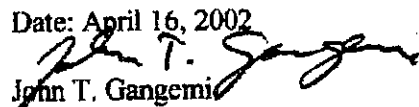
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believe that DWB should be making unilateral decisions on the appropriate components for a communications and process protocol. Unilateral decision making directly conflicts with the collaborative process inherent in the ALP. The collaborative development of the protocols builds the trust necessary among stakeholders in these proceedings building bridges for an efficient proceeding. If your response letter to our comments is your perception of collaboration then clearly we do not want the Williams Fork Reservoir to be relicensed under the ALP.

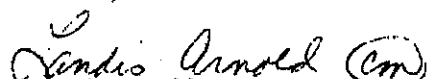
We appreciate the opportunity to provide you with our earlier comments regarding your ALP request. We would certainly reconsider our position should DWB choose to engage stakeholders proactively to collaboratively develop the communications and process protocols prior to requesting the ALP.

Respectfully submitted

Date: April 16, 2002


John T. Gangemi
Conservation Director
American Whitewater
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406-837-3155


Jay Kenney, President
Colorado White Water Association
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Denver, CO 80202


Landis Arnold
American Whitewater Board of Directors
6349 Bluebird Avenue
Niwot, CO 80503

CC: Magalie Salas, FERC
Mark Robinson, FERC
Matt Sicchio, HRC
Mona Janopaul, USFS
Gordon Sloan, USFS

Williams Fork Reservoir Hydropower Project) FERC Project No. 2204
Williams Fork River)
Grand County, Colorado)

The Whitewater Groups took the preliminary initiative to contact Denver Water Board (DW) in an attempt to work cooperatively in the relicense process and development of the Communications Protocol and Guiding Principles for the Williams Fork Reservoir Hydropower Project, FERC No. 2404. The Whitewater Groups have significant expertise developing Communications Protocols and Guiding Principles with other utility operators in relicense proceedings (Chelan Hydropower Project, Big Creek ALP, Upper South Fork American). Based on our participation in these other proceedings and the collective wisdom of the multitude of stakeholders in those proceedings, we filed specific recommendations for improving the draft Communications Protocol distributed by DW. DW unilaterally rejected most of the recommendations claiming they were too burdensome for the Williams Fork project. This behavior underscores DW's inability to work collaboratively further justifying our request for establishing more detailed process protocols based on successful alternative license proceedings elsewhere. The Whitewater Groups request the FERC's assistance in the development of a more detailed Communications Protocol and Guiding Principles.

Specific Comments

The Whitewater Groups do not support DW's request to use the Alternative Licensing Process due solely on the fact that the proposed Communications Protocol lacks sufficient detail. The Whitewater Groups recommend DW redraft the Communications Protocol after reviewing similar protocols drafted in other ALPs in recent years. The Whitewater Groups provide several url addresses below where DW can review Communications and Process Protocols in other ALPs. Developing a strong Communications Protocol is critical for a successful ALP. The Whitewater Groups will be happy to reconsider our support upon receipt of a more detailed Communications and Process Protocol similar to some of the examples we have cited below.

DW falsely indicates that there is a consensus to use the Alternative Licensing Procedures for the Williams Fork Hydropower Project relicense. The Whitewater Groups represent a significant interest not supporting use of the ALP based on the current Communications Protocol. This opposition rests solely on the lack of commitment by DW to develop a collaborative process. The failure to establish a clear process will lead to inefficiencies and poor use of stakeholder resources and staff time in meetings. For these reasons and the lack of clear collaboration in this process we oppose use of the Alternative Licensing Procedures for this project at this time.

The Whitewater Groups will support use of the Alternative Licensing Procedures if DW redrafts and distributes a revised Communications Protocol incorporating stakeholder recommendations. DW should then host a public meeting to review the proposed Communications Protocol and develop a Guiding Principles document collaboratively. This public meeting should be conducted by a skilled facilitator independent of DW.

Since the FERC's 1997 rulemaking permitting the use of the ALP, there have been a significant number of relicense proceedings adopting the alternate licensing procedure. American Whitewater is an active participant in over a dozen ALP proceedings alone. Through these proceedings we have gained considerable insight on the communications and process protocols that make some proceedings more successful than others. The ALPs that have drafted detailed Communications and Process Protocols are clearly on schedule for receiving a new license in a timely fashion. Those proceedings that failed to properly document the Communications and Process Protocols are riddled with conflicts. These proceedings are burdened by dysfunction where the process failed to institute mechanisms for making definitive decisions and resolving disputes. In the long run, these dysfunctional proceedings cost the Licensee more money in the relicensing process due to delays, additional meetings and additional data collection. This dysfunction costs the Whitewater Groups money as well. We prefer to participate in well organized ALPs that deal with conflict in an efficient and fair manner focusing energy on those resource issues with a clear nexus to project operations rather than attempting to solve every issue in a watershed through the relicense process.

Focusing on a robust Communications and Process Protocol upfront helps build trust among stakeholders. The stakeholders, along with the Licensee, are collectively designing a proceeding that all parties feel compelled to participate in actively, honestly and effectively. Building this trust upfront is critical for a successful ALP. Collaborative design of the Communications Protocol is a key step in building that trust.

The Whitewater Groups recommend that DW review Communications and Process Protocols drafted collectively by stakeholders in other proceedings. These examples will provide a sense of the communications tools and procedures identified to make these proceedings successful. We recommend you visit the following websites and search for the Communications and Process Protocols approved for each; www.chelanpud.org; www.stanrelicensing.com; www.sce.com/bigcreek; and www.smud.org/relicensing. These are just a few examples, the FERC can likely direct DW to other sites as well.

While visiting these sites also note the webpage design. A key to success in an ALP is the transparency of communications in the proceeding. Posting information on a website accelerates communications by making it readily accessible. The Whitewater Groups encourage DW to develop a website for this proceeding. The goal of the website should be to design a site that allows stakeholders to navigate easily while at the same time archiving all information in this proceeding.

The Whitewater Groups view this proposal as an initial draft by DW for a Communications Protocol. Finalization of a Communications and Process Protocol will require several iterations with comments and recommendations by all stakeholders prior to approving a final version for submission to the FERC. In the next draft, the Whitewater groups would like to see the following communications tools and procedural issues addressed:

- 1) Definition of Consensus based decision making
- 2) Definition of Plenary Group participants and responsibilities
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- 8) Proposed Communications Tools
 - 8a) Website
 - 8b) Documentation of meetings and public comment periods of minutes
 - 8c) Single text approach for decisional documents
- 9) Detailed Procedural Schedule for meetings and PDEA filing

Conclusions

While we are generally supportive of using the Alternative Licensing Procedures for most FERC hydropower projects, the Whitewater Groups oppose the use of the

Alternative Licensing Procedures for the Williams Fork Hydropower Project based on the present proposed Communications Protocol. The Whitewater Groups will reconsider their opposition upon receipt of a revised communications protocol incorporating stakeholder recommendations and a public meeting. As stated already, the Whitewater Groups highly recommend DW review the Communications and Process Protocols for other proceedings. These documents will greatly assist DW in drafting a second version of the proposed protocols for the Williams Fork ALP rather than reinvent the wheel. The Whitewater Groups do not feel these recommendations are too burdensome for this proceeding.

Respectfully submitted

Date: June 5, 2002

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Landis Arnold
American Whitewater Board of Directors
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Attachments: 1. Communications Protocol comments to DW 020325
2. Response to DW Rebuttal 020416

Attachment 1

March 25, 2002

Kevin Urie, Planning Division
Denver Water Department
1600 W. 12th Ave.
Denver Colorado 80204

Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**RE: Comments on the Draft Communications Protocol and Consultation Process
Williams Fork Reservoir Hydroelectric Project, FERC No. 2204**

Dear Mr. Urie:

American Whitewater and Colorado White Water Association (hereinafter referred to as the Whitewater Groups) appreciate the opportunity to work cooperatively with Denver Water (DW) in the relicense process for the Williams Fork Reservoir hydropower project, FERC No. 2404. The Whitewater Groups do not support DW's request to use the Alternative Licensing Process due solely on the fact that the proposed Communications Protocol lacks sufficient detail. The Whitewater Groups recommend DW redraft the Communications Protocol after reviewing similar protocols drafted in other ALPs in recent years. The Whitewater Groups provide several url addresses below where DW can review Communications and Process Protocols in other ALPs. Developing a strong Communications Protocol is critical for a successful ALP. The Whitewater Groups will be happy to reconsider our support upon receipt of a more detailed Communications and Process Protocol similar to some of the examples we have cited below.

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- 8b) Documentation of meetings and public comment periods of minutes
- 8c) Single text approach for decisional documents
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As stated already, the Whitewater Groups highly recommend you review the Communications and Process Protocols for other proceedings. These documents will greatly assist DW in drafting a second version of the proposed protocols for the Williams Fork ALP rather than reinvent the wheel. In their present form, the Whitewater Groups do not support a request to use the ALP for the Williams Fork Reservoir hydropower project.

Respectfully submitted

Date: March 25, 2002

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DENVER WATER

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Phone (303) 628-6000 • Fax No. (303) 628-6199

April 17, 2002

Secretary
Federal Energy Regulatory Commission
888 First St., N.E.
Washington, DC 20426

FILED
OFFICE OF THE SECRETARY
02 APR 24 AM 11:35
FEDERAL ENERGY
REGULATORY COMMISSION

Re: Request to use Alternative Licensing Process for Williams Fork Reservoir Hydroelectric Project,
FERC Project No. 2204.

Dear Secretary;

The City and County of Denver, acting by and through its Board of Water Commissioners ("Denver Water") and various federal, state, local agencies and special interest groups ("Participating Parties") have agreed to participate in the Alternative-Licensing Process ("ALP") for the re-licensing/exemption application process for Williams Fork Reservoir hydroelectric project, FERC Project No. 2204 ("Project"). The intent of the Participating Parties to participate is evidenced by the letters or acceptance forms received by Denver Water, attached hereto as Attachment 1.

Denver Water and the Participating Parties have, in the same letter or acceptance form, agreed to the Communications Protocol, attached as Attachment 2. This Communications Protocol is intended to satisfy the ex parte rules of the Federal Energy Regulatory Commission ("FERC") and to provide a guideline for communications and coordination among the Participating Parties involved in preparation of the Preliminary Draft Environmental Assessment.

As demonstrated below, Denver Water submits that good cause exists for granting the request for the ALP.

1. BACKGROUND

On July 2, 2001, Denver Water issued a Notice of Intent to the FERC. Shortly prior to that (the last week of June) Denver Water began providing public notice of Denver Water's intent to re-license the Project through FERC before the current license expires in 2006. Attachment 3 shows where and on what dates public notice was provided.

On March 8, 2002, Denver Water sent a letter to the Participating Parties stating Denver Water's intent to use the ALP, the Communication Protocol, and an acceptance form to approve the information included in those two documents. This letter is included as Attachment 4.

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CONSERVE

Following the FERC's approval of Denver Water's request to use the ALP, Denver Water will send the draft combined Scoping Document 1/Initial Information Package ("SD1/IIP") to the FERC for their review. Once the FERC approves the SD1/IIP, Denver Water will issue copies of the final SD1/IIP document to the FERC and Participating Parties and will set a date for the first scoping meeting.

2. LICENSE/EXEMPTION APPLICATION

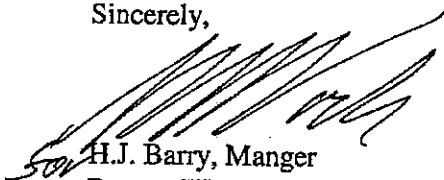
As Denver Water discussed in its letter to the Participating Parties (Attachment 4), Denver Water is investigating whether a small hydroelectric power project exemption at the Project is feasible. Regardless of whether Denver Water will be filing an application to re-license or such exemption, Denver Water anticipates using the ALP. Denver Water believes the ALP will provide a better opportunity to discuss and resolve all related issues with the Participating Parties.

3. REQUEST TO USE ALP

Denver Water has made a reasonable effort to contact the Participating Parties and acquire their consensus of the ALP and the Communications Protocol. Denver Water will submit this request package (letter of request and the attachments (1-5)) to all Participating Parties when it submits this request package to the FERC. Therefore, Denver Water is seeking the FERC's approval to use the ALP for the re-licensing or exemption application/environmental analysis process and the FERC's approval of the Communications Protocol. Following the FERC's approval, Denver Water intends to send the SD1/IIP to FERC and the Participating Parties and conduct the initial information meeting. Cooperative scoping of the environmental issues, analysis of completed studies and additional scoping, and the preparation of the preliminary draft EA and application will follow.

WHEREFORE, Denver Water respectfully requests that you grant this request to use the ALP.

Sincerely,



H.J. Barry, Manger
Denver Water Department

Attachment 1: Returned acceptance forms/letters from Participating Parties/Denver Water response to letters and comments

Attachment 2: Communications Protocol

Attachment 3: Public Notice Efforts

Attachment 4: Denver Water's letter to Participating Parties

Attachment 5: Project Mailing List

Cc: Participating Parties/Project Mailing List

Attachment 1

Returned Acceptance Forms/
Letters from Participating Parties/
Denver Water Response to Letters and Comments/

FILED
CLERK OF DISTRICT COURT
JUL 24 AM 11:37
REGISTRATION / COMMISSION

**American
Whitewater**

RECEIVED

APR 6 3 2002

John T. Gangemi
Conservation Director PLANNING
DENVER WATER

March 25, 2002

Kevin Urie, Planning Division
Denver Water Department
1600 W. 12th Ave.
Denver Colorado 80204

Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**RE: Comments on the Draft Communications Protocol and Consultation Process
Williams Fork Reservoir Hydroelectric Project, FERC No. 2204**

Dear Mr. Urie:

American Whitewater and Colorado White Water Association (hereinafter referred to as the Whitewater Groups) appreciate the opportunity to work cooperatively with Denver Water (DW) in the relicense process for the Williams Fork Reservoir hydropower project, FERC No. 2404. The Whitewater Groups are unable to support DW's request to use the Alternative Licensing Process based on the presently proposed Communications Protocol. Since the FERC's 1997 rulemaking permitting the use of the ALP there have been a significant number of relicense proceedings adopting this alternate licensing procedure. American Whitewater is an active participant in over a dozen ALP proceedings alone. Through these proceedings we have gained considerable insight on the communications and process protocols that make some proceedings more successful than others. The ALPs that have drafted detailed Communications and Process Protocols are clearly on schedule for receiving a new license in a timely fashion. Those proceedings that failed to properly document the Communications and Process Protocols at the outset are not on schedule and unlikely to receive a new license in a timely fashion due to appeals by disgruntled stakeholders. These proceedings are burdened by dysfunction where the process failed to institute mechanisms for making definitive decisions and resolving disputes. In the long run, these dysfunctional proceedings cost the Licensee more money in the relicensing process due to delays, additional meetings and additional data collection. This dysfunction costs the Whitewater Groups money as well. We prefer to participate in well organized ALPs that deal with conflict in an efficient and fair manner.

Conservation and Access Program: 482 Electric Avenue, Bigfork, MT 59911
Phone 406-837-3155 FAX 406-837-3156 jgangemi@digisys.net

Focusing on a robust Communications and Process Protocol upfront helps build trust among stakeholders. The stakeholders, along with the Licensee, are collectively designing a proceeding that all parties feel compelled to participate in actively. Building this trust upfront is critical for a successful ALP.

The Whitewater Groups recommend that DW review Communications and Process Protocols drafted collectively by stakeholders in other proceedings. These examples will provide a sense of the communications tools and procedures identified for these proceedings to be successful. We recommend you visit the following websites and search for the Communications and Process Protocols approved for each; www.chelanpud.org; www.stanrelicensing.com; www.sce.com/bigcreek; and www.smud.org/relicensing. While visiting these sites also note the webpage design. A key to success in an ALP is the transparency of communications in the proceeding. Posting information on a website accelerates communications by making it readily accessible. The Whitewater Groups encourage DW to develop a website for this proceeding. The goal of the website should be to design a site that allows stakeholders to navigate easily while at the same time archiving all information in this proceeding.

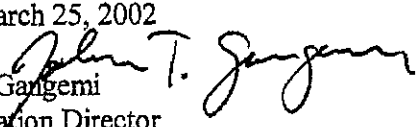
The Whitewater Groups view this proposal as an initial draft by DW for a Communications Protocol. Finalization of a Communications and Process Protocol will require several iterations with comments and recommendations by all stakeholders prior to approving a final version for submission to the FERC. In the next draft, the Whitewater groups would like to see the following communications tools and procedural issues addressed:

- 1) Definition of Consensus based decision making
- 2) Definition of Plenary Group participants and responsibilities
- 3) Definition of Technical Working Groups
- 4) Late participation addressed
- 5) Third Party facilitation
- 6) Proposed decision-making process
- 7) Proposed Dispute resolution process
- 8) Proposed Communications Tools
 - 8a) Website
 - 8b) Documentation of meetings and public comment periods of minutes
 - 8c) Single text approach for decisional documents
- 9) Detailed Procedural Schedule for meetings and PDEA filing

As stated already, the Whitewater Groups highly recommend you review the Communications and Process Protocols for other proceedings. These documents will greatly assist DW in the drafting a second version of the proposed protocols for the Williams Fork ALP rather than reinvent the wheel. In their present form, the Whitewater groups are unable to support a request to use the ALP for the Williams Fork Reservoir hydropower project.

Respectfully submitted

Date: March 25, 2002


John T. Gangemi
Conservation Director
American Whitewater
482 Electric Avenue
Bigfork, MT 59911
406-837-3155

Jay Kenney, President
Colorado White Water Association
1675 Larimer, Suite 735
Denver, CO 80202

Landis Arnold
American Whitewater Board of Directors
6349 Bluebird Avenue
Niwot, CO 80503

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80254
Phone (303) 628-6000 • Fax No. (303) 628-6199

April 11, 2002

American Whitewater
Attn: John Gangemi, Conservation Director
482 Electric Avenue
Bigfork, MT 59911

Re: Response to Comments on the Communications Protocol for Williams Fork Reservoir
Hydroelectric Project, FERC No. 2204

Dear Mr. Gangemi:

Denver Water received Whitewater Groups' comments, dated March 25, 2002, regarding Denver Water's request to use the Alternative Licensing Process (ALP) and, in particular, the Communications Protocol for the Williams Fork Reservoir Hydroelectric Project, FERC No. 2204 (Project). Denver Water appreciates the suggestions and the references to websites of other FERC licensees; however, Denver Water believes that the majority of Whitewater Groups' specific requests are not appropriate in this Communications Protocol document or for the Project, in general. The following responses correspond to Whitewater Groups' suggestions for the Communications Protocol:

Items 1-7 (Definition of Consensus based decision making; definition of Plenary Group participants and responsibilities; definition of Technical Working Groups; late participation addressed; third party facilitation; proposed decision-making process; proposed dispute resolution process)

According to the FERC Hydroelectric Project Licensing Handbook and FERC regulations at 18 CFR 4.34(i)(3)(ii), the communications protocol serves to govern "*how* the applicant and other participants in the pre-filing consultation process, including the Commission staff, may communicate with each other regarding the merits of the applicant's proposal and *proposals and recommendations* of interested entities" (emphasis added). Denver Water's Communications Protocol adequately provides *how* the participating parties will communicate with each other. The Communications Protocol is not intended to set forth the proposals and recommendations that will arise during the ALP. Defining work groups, decision-making processes, etc. will be determined at an appropriate time, most likely at or after the Initial Scoping meeting.

Furthermore, while the intent behind using the ALP is to reach consensus and go through the pre-filing consultation process with cooperative effort and decision making among the participating parties, it is not mandatory that consensus on *proposals and recommendations* be reached, as much as it is the goal behind the process. Therefore, Denver Water is hesitant to define what consensus would mean, what technical working groups will be necessary, etc., until the proposals and recommendations have been presented. At that time, the logistical and procedural steps of

the ALP and the specific issues regarding the Project will be better defined.

Additionally, a majority of these suggestions (items 1-7) are more appropriate in a project of a much larger size and with numerous issues raised by stakeholders, as the websites to which Whitewater Groups refer Denver Water illustrate. Unlike Big Creek, where the communications protocol included certain terms Whitewater Groups would like to see defined in Denver Water's Communications Protocol, Denver Water is not planning seven re-licensing projects at one time. The Williams Fork Project currently generates only 3 MW; it exists solely on Denver Water property; it is not the primary purpose of the reservoir; and, at this time, the foreseeable issues and the stakeholders involved lead Denver Water to believe that the ALP will be a cooperative, well-managed process, for which the Communications Protocol sufficiently provides how the participating parties are to communicate with each other. Understandably, large hydroelectric projects with many stakeholders and/or numerous on-going re-licensing projects will certainly benefit from Whitewater Groups suggestions 1-7. However, Denver Water believes that in this particular re-licensing effort, providing such definitions and detail regarding the ALP in a communications protocol prior to the Initial Scoping meeting is unnecessary and may make a relatively small project more problematic and timely, defeating Whitewater Groups' reasons for making such suggestions.

Furthermore, should Denver Water's proposals and the recommendations of participating parties require plenary groups, technical working groups, definitions of dispute resolution, third party resolution, etc., Denver Water will have a better sense of such issues during or after the Initial Scoping meeting, at which time the Communications Protocol can be amended or a separate document can be created to provide necessary Project-specific definitions and procedures for the ALP.

Denver Water reviewed communications protocols of other FERC licensees, along with the websites Whitewater Groups suggested, and found that Denver Water's Communications Protocol is sufficient and similar to other projects of this size, it meets the requirements of FERC regulations, and it adequately provides how the participating parties shall cooperate with each other during the ALP.

Item 8 (Proposed communications tools: a) website; b) documentation of meetings and public comment periods of minutes; c) single text approach for decisional documents)

Denver Water will not be creating a website containing documentation for the Project as part of its Communications Protocol. While this is a helpful tool, this process would be timely and costly in comparison to the size of this Project, and providing such information on the internet may cause security-related concerns. Denver Water has entertained the thought of putting a link to the Project on the existing Denver Water website, but this would be for general information and will likely just provide up-to-date information on where in the ALP Denver Water is, and/or a general ALP schedule. The public file that will be available at Denver Water's administration building is being set up as an electronic file, which can be accessed on a computer set up specifically for that purpose. This process will enable the public to search documents by key words. When unable to come to the administration building, the public may also make a request for information, which will be e-mailed or Xeroxed and sent by U.S. mail, depending on the party's request. These processes are already in place, allowing Denver Water to continue the

ALP process without the delay of implementing a website for this project, and they provide sufficient access to public information.

Denver Water appreciates Whitewater Groups' suggestion for documentation of meetings (meeting minutes), followed by a review and comment period. Denver Water will include a statement in the Communications Protocol under paragraph B, "Public Meetings," to incorporate this suggestion.

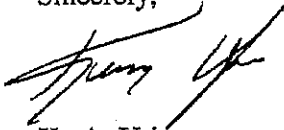
A single text approach for decisional documents is also a helpful tool in the ALP. When this can be done, Denver Water will produce single text decisional documents and will encourage and suggest that participating parties make this effort as well. However, as this suggestion does not apply to *how* the participating parties are to communicate with each other, this is a suggestion that will be more appropriate during the Initial Scoping meeting and other public meetings that follow, particularly as it becomes better known what studies and reports will be required. Therefore, at that time, Denver Water will support Whitewater Groups' suggestion to use single text decisional documents when practicable.

Item 9 (Detailed procedural schedule for meetings and PDEA filing)

Again, Whitewater Groups' suggestion is appreciated, but it is not appropriate for the Communications Protocol document. Denver Water agrees that creating a detailed procedural schedule for meetings and PDEA filing will maintain organization and timeliness in the ALP. However, it is not relevant to the issue of how the participating parties are to communicate with each other during the ALP. Furthermore, at this time, Denver Water could only make a skeleton procedural schedule based primarily on FERC regulatory timelines of the ALP. After the Initial Scoping meeting, Denver Water will have a better understanding of the participating parties' recommendations and Denver Water's proposals on which a detailed procedural schedule can be developed. At that time, Denver Water will provide such information.

Denver Water looks forward to the opportunity to work cooperatively with Whitewater Groups and the other participating parties through the use of the ALP. While Denver Water agrees with most of Whitewater Groups' recommendations for making the ALP a well-organized and efficient process, the suggestions made in Whitewater Groups' comments are either not appropriate for the Project, or they should not be established in the Communications Protocol. Denver Water respectfully requests Whitewater Groups' support of the ALP and the Communications Protocol with the understanding that many of these recommendations are either inapplicable or more burdensome to a project the size of Denver Water's, and that determinations made on what efforts and documentation will be required during the ALP will be better understood and addressed during and after the Initial Scoping meeting. At that time, and as noted above, some of Whitewater Groups' suggestions will be appropriate and will be supported by Denver Water.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kevin Urie', with a stylized flourish extending from the end.

Kevin Urie
Project Coordinator

Cc: Secretary, FERC; Participating parties



United States Department of the Interior

BUREAU OF RECLAMATION
Great Plains Region
P.O. Box 36900
Billings, Montana 59107-6900

*replied 4/4/02
ku*

IN REPLY REFER TO:

GP-1000
PRJ-18.00

Mr. Kevin Urie
Denver Water Department
1600 West 12th Avenue
Denver, CO 80204

MAR 29 2002

RECEIVED

APR 03 2002

PLAINTEXT
DENVER WATER

Subject: Federal Energy Regulatory Commission (FERC) License No. 2204 - Williams Fork Reservoir

Dear Mr. Urie:

This is in reply to your letter of March 2002 to Bill Harlan of the Eastern Colorado Area Office of the Great Plains Region concerning Denver Water's FERC license for hydropower generation at Williams Fork Reservoir. The license to Denver Water, FERC No. 2204, is nearing expiration, and you asked if the Bureau of Reclamation would like to participate in the relicensing process as an "interested entity."

You requested acceptance of the Alternative Licensing Process and a Communications Protocol prior to March 25, 2002, and submittal of an acceptance form along with comments or concerns by March 22, 2002. However, the protocol did not contain a distribution list, referenced under B. Please forward a copy of this list to Eastern Colorado Area Manager, Brian Person, and me.

We are not submitting an acceptance form at this time but may do so upon further review. We request you keep us informed as your relicensing process moves forward.

Reclamation would be concerned if any part of your proposal or your relicensing, resulted in changes of the flow regime downstream of the Denver Water's Williams Fork Reservoir. However, it is our understanding these flows are governed by existing decrees, including the Blue River Decrees, and that the Williams Fork power plant operates, and will continue to operate, with water released in accordance with existing decrees.

Thank you for contacting us regarding this issue. Please address any subsequent correspondence on this matter to me at the address on this letterhead, and send a copy to Brian Person at the same address as Bill Harlan.

Sincerely,
Maryanne C. Bach
Acting
Maryanne C. Bach
Regional Director

Copies to persons on next page.

cc: Eric Wilkinson, Northern Colorado Water Conservancy District, P.O. Box 679,
Loveland, CO 80539-0679

Rick Gold, Regional Director, Bureau of Reclamation, 125 South State Street, Room 6107,
Salt Lake City, UT 84138-1102

Carol DeAngelis, Area Manager, Western Colorado Area Office, Bureau of Reclamation,
2764 Compass Drive, Suite 106, Grand Junction, CO 81506

Brian Person, Area Manager, Eastern Colorado Area Office, Bureau of Reclamation,
11056 West County Road 18E, Loveland, CO 80537-9711

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80254
Phone (303) 628-6000 • Fax No. (303) 628-6199

April 4, 2002

Ms. Maryanne Bach
Regional Director
U.S. Department of Interior
Bureau of Reclamation
Great Plains Region
P.O. Box 36900
Billings, Montana 59107-6900

Subject: Federal Energy Regulatory Commission (FERC) License No. 2204 - Williams Fork Reservoir

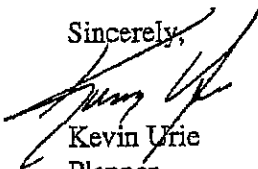
Dear Ms. Bach:

Included with this letter is a copy of the project's distribution list that was inadvertently omitted with our original letter to you requesting acceptance of the Alternative Licensing Process and Communications Protocol. The omitted project distribution list was referenced under section B of the Communications Protocol.

Denver Water hopes that you will consider signing the acceptance form after your review of the project distribution list.

Denver Water will continue to inform you and Mr. Person on the progress of the project relicensing as we move forward.

Sincerely,


Kevin Urie
Planner

Cc: Brian Person, Area Manager, Eastern Colorado Area Office, Bureau of Reclamation, 11056 West County Road 18E, Loveland, CO 80537-9711

Attachment

CONSERVE

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
ACCEPTANCE FORM

FOR WILLIAMS FORK HYDROPOWER PROJECT NO. 2204

RECEIVED

APR 10 2002

PLANNING
DENVER WATER

Colorado Div. of Wildlife has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project").

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

Mike M. Craig

(Name of Authorized Representative)

Colorado Div. of Wildlife

(Agency)

4/10/02

(Date)

Please Return Form by March 28, 2002, to:

Denver Water

Attn: Kevin Urie

1800 W. 12th Avenue

Denver, CO 80204

Fax 303-628-6852

kevin.urie@denverwater.org

RECEIVED

APR 05 2002

PLANNING
DENVER WATER

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
ACCEPTANCE FORM

FOR WILLIAMS FORK HYDROPOWER PROJECT NO. 2204

APR 05 2002

PLANNING
DENVER WATER

NORTHERN COLORADO WATER
CONSERVANCY DISTRICT has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory
Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the
"Project").

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all
the interested entities, including federal and state agencies and the Commission, will communicate the
merits of the Project. We understand that all interested entities must adhere to this Protocol in order to
comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,


(Name of Authorized Representative)

NORTHERN COLORADO WATER CONSERVANCY DISTRICT
(Agency)

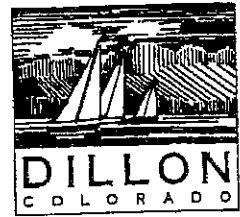
04/05/02
(Date)

Please Return Form by March 28, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204
Fax 303-828-8852
kevin.urie@denverwater.org

March 21, 2002

RECEIVED

APR 08 2002



Denver Water Department
Kevin Urie
16000 West 12th Ave.
Denver, CO 80204

PLAN
DENVER WATER

Dear Mr. Urie:

Enclosed is the executed form accepting the Denver Water's communications protocol and use of the ALP for the Williams Fork project (FERC Project No. 2204). The Town of Dillon would like to be involved in this process, especially to the extent that this project may affect levels in Dillon Reservoir. We appreciate your notification of this process and look forward to being included in the ALP process.

Sincerely,

Julie A. Boyd
Town Manager

Town of Dillon
275 Lake Dillon Drive
Post Office Box 8
Dillon, CO 80435

970.468.2403
Fax 970.262.3410



ACCEPTANCE FORM

RECEIVED

APR 6 8 2002

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

PLANNING
DENVER WATER

Town of Dillon has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

Julie A. Boyd
(Name of Authorized Representative)

Town of Dillon
(Agency)

3/21/02
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

ACCEPTANCE FORM

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

RECEIVED
MAR 26 2002
PLANNING
DENVER WATER

Denver Parks has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

David Paris

(Name of Authorized Representative)

David Paris Outfitting & Build Service

(Agency)

3-20-02

(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

ACCEPTANCE FORM
COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

RECEIVED
MAR 13 2002
PLANNING
DENVER WATER

Cutthroat Anglers has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

Harry Culpeston
(Name of Authorized Representative)

Cutthroat Anglers
(Agency)

3/15/02
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

RECEIVEDCOMMUNICATIONS PROTOCOL AND USE OF THE ALP
ACCEPTANCE FORM**MAR 15 2002**

FOR WILLIAMS FORK HYDROPOWER PROJECT NO. 2204

PLANNING
DENVER WATER

STATE SOIL CONSERVATION BOARD has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory
Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the
"Project").

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all
the interested entities, including federal and state agencies and the Commission, will communicate the
merits of the Project. We understand that all interested entities must adhere to this Protocol in order to
comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,



(Name of Authorized Representative)

State Soil Conservation Board

(Agency)

(Date)

3/15/02

Please Return Form by March 22, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204
Fax 303-828-6852
kevin.urie@denverwater.org

RECEIVED

MAR 15 2002

PLANNING
DENVER WATER

ACCEPTANCE FORM

**COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204**

Winter Park Water Sanitation District has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

JACK W. BURKHARDT PRESIDENT
(Name of Authorized Representative)

Winter Park Water Sanitation District
(Agency)

3/13/02
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

REC

MAR 15 2002

PL
DENVER WATER

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
ACCEPTANCE FORM

FOR WILLIAMS FORK HYDROPOWER PROJECT NO. 2204

Colorado Division of Water Resources
(Entity) has been notified of and accepts Denver Water's

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project").

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

Harold D. Simpson
(Name of Authorized Representative)

Director, Division of Water Resources
(Agency)

3/12/02
(Date)

Please Return Form by March 22, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204
Fax 303-628-6852
kevin.urie@denverwater.org

RECEIVED

MAR 15 2002

PLANNING
DENVER WATER

ACCEPTANCE FORM
COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

TOWN OF WINTER PARK has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory
Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the
"Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all
the interested entities, including federal and state agencies and the Commission, will communicate the
merits of the Project. We understand that all interested entities must adhere to this Protocol in order to
comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

CHUCK SWANSON
(Name of Authorized Representative)

(Agency)

3/11/02
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

RECEIVED

Williams Fork Reservoir Hydroelectric Project, (FERC No. 2204)

MAR 15 2002

Denver Water,

Thank you for the opportunity to comment on the Williams Fork Reservoir ALP.

I would like to see Denver Water take off the restriction of "NO SNOWMOBILES ALLOWED" on Williams Fork Reservoir.

I believe the use of snowmobiles would give greater access to winter fishing for the handicapped and elderly.

Presently winter access for the handicapped is virtually none.

It would also increase the recreational opportunity in Grand County and may give an economic boost to the Parshall area businesses throughout the winter.

I believe the Williams Fork Reservoir is the only large body of water in Grand County where the use of snowmobiles is prohibited.

Sincerely,



Doug Weimer

P.O. Box 69

Hot Sulphur Springs, CO. 80451

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MAR 15 2002

PLANNING
DENVER WATER

ACCEPTANCE FORM
COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

Doug Weimer has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

Doug Weimer
(Name of Authorized Representative)

(Agency)

03-11-02
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

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MAR 13 2002

**PLANNING
DENVER WATER**

ACCEPTANCE FORM
COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

Blue River Anglers has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

[Signature]
(Name of Authorized Representative)

Blue River Anglers
(Agency)

3-8-02
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

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MAR 3 2002

PLANNING
DENVER WATER

ACCEPTANCE FORM
COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

The Town of Silverthorne has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely, Kevin Batchelder

Kevin Batchelder Town Manager
(Name of Authorized Representative)

Town of Silverthorne
(Agency)

3/7/02
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

RECEIVED

MAR 7 2002

PLANNING
DENVER WATER

ACCEPTANCE FORM
COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

ELKTROUT LODGE has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

MARGY LEON
(Name of Authorized Representative)

ELKTROUT LODGE
(Agency)

3/4/02
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

RECEIVED

ACCEPTANCE FORM

MAR 7 2002

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

PLANNING
DENVER WATER

Rob Scott has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory
Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the
"Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all
the interested entities, including federal and state agencies and the Commission, will communicate the
merits of the Project. We understand that all interested entities must adhere to this Protocol in order to
comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

[Signature]

(Name of Authorized Representative)

Private

(Agency)

3/5/02

(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
ACCEPTANCE FORM

FOR WILLIAMS FORK HYDROPOWER PROJECT NO. 2204

REC
MAR 21 2002
PLANNING
DENVER WATER

Colo. State Bd. of Land Comm. has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project").

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

Beverly Rave PO Box 1094, Craig CO 81626
(Name of Authorized Representative)

Colo. State Board of Land Commissioners
(Agency)

3-20-02
(Date)

Please Return Form by March 22, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204
Fax 303-628-6852
kevin.urie@denverwater.org

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
ACCEPTANCE FORM

FOR WILLIAMS FORK HYDROPOWER PROJECT NO. 2204

RECEIVED
MAR 13 2002
PLANNING
DENVER WATER

GRAND COUNTY SHERIFF has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory
Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the
"Project").

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all
the interested entities, including federal and state agencies and the Commission, will communicate the
merits of the Project. We understand that all interested entities must adhere to this Protocol in order to
comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

Randy D. Johnson SHERIFF
(Name of Authorized Representative)

GRAND COUNTY SHERIFF
(Agency)

3-18-02
(Date)

Please Return Form by March 22, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204
Fax 303-628-6852
kevin.urie@denverwater.org

RECEIVED

MAR 10 2002

PLANNING
DENVER WATER

ACCEPTANCE FORM
COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

Middle Park Water
Conservancy District has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory
Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the
"Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all
the interested entities, including federal and state agencies and the Commission, will communicate the
merits of the Project. We understand that all interested entities must adhere to this Protocol in order to
comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

Stanley W. Cazier
(Name of Authorized Representative)

Middle Park Water Conservancy District
(Agency)

March 14, 2002
(Date)

Middle Park Water Conservancy
District
Post Office Box 500
Granby, Colorado 80446

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

CAZIER AND MCGOWAN

A Law Partnership
OF PROFESSIONAL CORPORATIONS

STANLEY W. CAZIER, P.C.
RODNEY R. MCGOWAN, P.C.
JOHN D. WALKER

March 15, 2002

62495 U.S. HIGHWAY 40 EAST
BOX 500
GRANBY, COLORADO 80446
TELEPHONE (970) 887-3376
FAX (970) 887-9430
JOHN L. BAKER, P.C.
OF COUNSEL

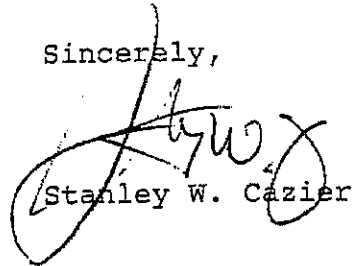
Denver Water Department
Mr. Kevin Urie
1600 W. 12th Avenue
Denver, Colorado 80204

RE: Communications Protocol-Williams Fork-Middle Park Water
Conservancy District

Dear Mr. Urie:

Please find enclosed a copy of the "ACCEPTANCE FORM".

Sincerely,



Stanley W. Cazier

SWC:sa
Enclosure
pc: Duane Scholl



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Kremmling Field Office

2103 E. Park Ave.

P.O. Box 68

Kremmling, Colorado 80459

970-724-3000

<http://www.co.blm.gov/kra/kraindex.htm>



IN REPLY REFER TO:

CO-120

March 18, 2002

Kevin Urie, Planner
Denver Water Department
1600 West 12th Avenue
Denver, CO 80204

Dear Mr. Urie:

Enclosed is the signed copy of the Acceptance Form for the Communications Protocol and Use of the Alternative Licensing Process for the Williams Fork Reservoir Hydroelectric Project (FERC Project No. 2204).

I request that the Bureau of Land Management, Kremmling Field Office, remain on the project distribution list for the Williams Fork Reservoir license renewal process. We would like to have the opportunity to review any environmental documents prepared for this project, in order to evaluate any impacts on public lands managed by the Bureau of Land Management.

If you have any questions or require any information, as you proceed with this project, the contact for this office is Madeline Dzielak.

Sincerely,

Linda M. Gross
Field Manager

Enclosure

ACCEPTANCE FORM
COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

RECEIVED
MAR 18 2002
PLANNING
DENVER WATER

The Bureau of Land Management has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory
Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the
"Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all
the interested entities, including federal and state agencies and the Commission, will communicate the
merits of the Project. We understand that all interested entities must adhere to this Protocol in order to
comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,


(Name of Authorized Representative)

Linda M. Gross, Field Manager

Bureau of Land Management, Kremmling Field Office
(Agency)

March 18, 2002
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

Attachment 2

Proposed Communications Protocol

Williams Fork Reservoir Hydroelectric Project, FERC Project No. 2204

Introduction

The following document provides a guideline for communications and coordination among the interested entities, including the City and County of Denver, acting by and through its Board of Water Commissioners ("Denver Water"), the Federal Energy Regulatory Commission (the "Commission"), agencies, special interest groups, and interested individuals, involved in the preparation of the Environmental Assessment ("EA") for the Williams Fork Hydroelectric Project, Project No. 2204.

Denver Water, the applicant, is preparing a preliminary draft EA (PDEA) under the Commission's Alternative Licensing Process (the "ALP") and will file the PDEA with the Commission when it files its license application. The PDEA will replace the Exhibit E usually required by the Commission in traditional license applications.

Since proper communications among all interested entities in this process is critical, and since ex parte communications regulations (18 CFR 385.2201) apply here, this communications protocol will ensure that all information is conveyed among the interested entities in a regular and predictable manner, and that all ex parte communications regulations are followed.

Communication Procedures

- A. **Public Reference Files.** There will be two public reference files for this project, one with Denver Water and the other with the Commission. The respective addresses of the two public reference files are:

Kevin Urie
Planning Division
Denver Water Department
1600 W. 12th Ave.
Denver, CO 80204

Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

- B. **Public Meetings.** There will be at least one public scoping meeting or a paper scoping meeting for this project scheduled for some time in the Spring of 2002. This meeting will be used as a scoping meeting under the National Environmental Policy Act ("NEPA") process. An additional public meeting will be held to discuss and receive comments on the draft license application and the PDEA. The time and location of these meetings have not yet been determined. These meetings, and any other public meetings that may be held

Attachment 2

for the Project, shall use the following procedures for notifying the public and all interested entities:

- Denver Water will publish notification of the meeting in the Rocky Mountain News, the Denver Post, the Grand County Tribune and the Summit Daily News two weeks prior to the meeting date;
- Denver Water will serve notification of the meeting to all those interested entities on the project's distribution list, attached hereto; and
- The Commission will notice the meetings in the Federal Register, at least two weeks prior to the meeting date.

C. **Notices.** Noticing procedures for public meetings are described above. In addition to mailing out the PDEA to the project distribution list, the following procedures are to be followed for notifying the public and all other interested entities of the availability of the PDEA:

- Denver Water will publish a notice of the availability of the PDEA in the Rocky Mountain News, the Denver Post, the Grand County Tribune and the Summit Daily News; and
- The Commission will notice the availability of the PDEA in the Federal Register.

D. **Coordination Meetings.** Meetings between those involved in preparing the EA (for example, between Denver Water and an agency) may occur on an "as needed" basis. Though these meetings need not be open to the public, a detailed summary of the meeting shall be prepared by the party that requested the meeting, circulated to all interested entities for comment, and finally placed in both public reference files for this Project (see A above). Furthermore, it is not necessary for every agency or group to participate in a given meeting.

E. **Teleconference Calls.** Teleconference calls between those involved in preparing the EA may also occur on an "as needed" basis. Similarly, a summary of the teleconference call shall be prepared by the party who requested the call and placed in both public reference files for this Project (see A above). If a relevant telephone conversation takes place between a signatory to this Protocol and an individual who is not a participant, the signatory shall follow this Protocol.

F. **Written Communications.** All written communications that need to be part of the public record shall be placed in both public reference files for this Project (see A above). Examples of such written communications include comment letters, meeting summaries, teleconference call summaries, progress reports, and any other written information pertinent to this Project. All written communications must have the following clearly displayed on the first page:

Attachment 2

Williams Fork Reservoir Hydroelectric Project (FERC No. 2204).

All written communications must be mailed to both public files; no facsimile communications will be accepted in either file, but electronic documents will be accepted for both public files.

- G. ***Communications with Commission Staff.*** The Commission has determined that its ex parte rules will apply to all communications in this proceeding. Any person may communicate orally with Commission staff during the licensing process. Such communications may concern the procedure or the merits of the process, including preparation of the PDEA, and may take place without prior notice to the other participants. All written communications with the Commission or its staff from any of the participants must be placed in both public reference files for this project. (See A above)

With respect to any oral communication with Commission staff, the communication shall be summarized in a written memorandum prepared by the Commission staff member participating in the discussion, or by another participant in the discussion designated by the Commission staff member. The memorandum shall be promptly placed in both public reference files for the project. (See A above)

- H. ***6-Month Progress Reports.*** (18 CFR 4.34 (i)(6)(ii)). Following the Commission's acceptance of the use of the ALP and every 6 months thereafter, Denver Water will file a report summarizing the progress made in the pre-filing consultation process, referencing the public file and summaries or minutes from public meetings. Such progress reports shall also be sent to each participant that requests a copy.

Attachment 3

Public Notices for Relicensing of Williams Fork Reservoir Hydroelectric Project, FERC Project No. 2204

Notices Posted 6-29-01:

Kremmling

BLM. office	Flyers and sign posted
Natural Resources Conservation Service	Flyers and sign posted
Town of Kremmling	Sign posted
Northwest Ranch Supply	Sign posted
Fishn' Hole	Sign posted
Tourism Office	Flyers posted
Community First Bank	Sign posted

Hot Sulfur Springs

Offices of Grand County (Coleen Reynolds)	Flyers and sign posted
Phillips 66 station	Sign posted
Town Hall (Barb)	Flyers and sign posted

Parshall

Parshall Inn	Sign posted
Country Store	Flyers and sign posted
Division of Wildlife	Left copies for review

Granby

Municipal Building & Library	Signs posted
Fletcher's Sporting Goods	Flyers posted

Attachment 3

Great Divide Sports

Flyers posted

Signs & Flyers Posted at Williams Fork Reservoir

Three signs 2 foot by 4 foot were attached to the existing recreation signs (text attached) and three 1 foot x 1 foot signs were placed on fence posts near foot paths.

A caretaker passed out 60 to 80 flyers to boaters & campers at Williams Fork on 6-30-01 and 7-1-01.

Notices Posted 7-02-01:

Colorado Division of Wildlife posted one sign at the Breeze Unit and one at the Kemp Unit.

Notices Posted 7-13-01:

Letter and flyer sent to 55 official of Summit and Grand Counties on mailing list

Flyers sent to 48 individuals & organizations – mailing list

Notices Posted the week of 7-22-01 (Ads in Grand County papers):

Grand County Tribune	7-24, 25, 26, 27 and 29
Middle Park Times	7-24
Winter Park Manifest	7-25
Ski Hi News	7-26
Grand Prospector	7-27

Total reported Impressions (circulation) 19,550

Notices Posted the week of 8-5-01 (Ads in Summit County papers):

Ten Mile Times	8-8
Summit Daily News	8-7, 8, 9, 10 and 11

Total reported Impressions (circulation) 18,500

8-10-01 Denver Water Press Release

Denver Water press release sent to all Summit and Grand County radio stations and newspapers as well as to the Denver Post (Charlie Meyers) and the News (Ed Dentry).

Article in the Ski-Hi news on 8-30-01 on Williams Fork Relicensing.

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80254
Phone (303) 628-6000 • Fax No. (303) 628-6199



Attachment 4

«First_Name» «Last_Name»

«Date»

«Company»

«Address»

«City», «Zip_Code»

Dear Interested Entity;

Denver Water's current Federal Energy Regulatory Commission (the "Commission") license for hydropower generation at Williams Fork Reservoir (FERC Project No. 2204) is nearing expiration, and it is time for Denver Water to begin the license renewal process.

The Commission offers two separate processes for relicensing hydroelectric projects, the Traditional Licensing Process and the relatively new Alternative Licensing Process (ALP). Under the Traditional Licensing Process, Denver Water would individually identify the impacts associated with the Williams Fork project and would conduct environmental studies without upfront input from stakeholders. Denver Water would submit its Preliminary Draft Environmental Assessment ("PDEA") and license application to the Commission for a renewed license based on Denver Water's view of environmental impacts and issues. Under the ALP, however, Denver Water would involve interested entities and stakeholders in the scoping of environmental issues, environmental resource studies and analysis for the preparation of the PDEA that will be conducted by Denver Water's consultants. Denver Water will identify project impacts and develop environmental studies in cooperation with the interested entities and stakeholders, federal and state agencies and the Commission. The ALP encourages cooperative efforts and improves communications and sharing of information about resource impacts, protection, mitigation, and enhancement opportunities. For this reason, Denver Water will be requesting the Commission to approve the use of the ALP for a renewed license at Williams Fork Reservoir.

Open communication and cooperation from interested entities is particularly important to Denver Water throughout this process. Denver Water has filed a Notice of Intent (NOI) to relicense the Williams Fork Hydroelectric Project, leaving open the opportunity to seek an exemption from licensing if feasible. At this time, Denver Water is investigating and analyzing whether an increase in generating capacity is feasible, thereby qualifying Denver Water for a potential exemption from licensing for the Williams Fork Hydroelectric Project. Denver Water anticipates using the ALP regardless of whether or not a new license or an exemption is ultimately requested. If Denver Water is granted a license exemption by the Commission, the exemption would include conditions equivalent to license conditions imposed on Denver Water to ensure the same level of effort regarding resource impacts, protection, mitigation and enhancements. The primary reason for Denver Water's desire to seek an exemption is that Denver Water will not be required to go through the costly process of re-licensing Williams Fork Reservoir again later.

Nonetheless, Denver Water has not determined whether to apply for an exemption or a renewed license. In the meantime, Denver Water will have a better opportunity through the ALP process to discuss all issues with interested entities and stakeholders before filing its license application.

CONSERVE

Included in this letter is the Communications Protocol. This document governs how Denver Water, the interested entities, federal and state agencies and the Commission will communicate throughout the process about Denver Water's proposal and any recommendations made by any entity. Please review the Communications Protocol and feel free to ask Denver Water any questions you may have about the ALP.

Denver Water will submit a letter to the Commission requesting its approval of the use of the ALP process by March 22, 2002. We would like to have your acceptance of the ALP process and the Communications Protocol before that time. Therefore, please sign the enclosed Acceptance Form and send it along with any comments or concerns to Denver Water by March 18, 2002.

This form should be sent to:
Denver Water Department
Kevin Urie
1600 West 12th Ave.
Denver, CO 80204

Following Denver Water's letter of request to the Commission to use the ALP and the Commission's acceptance of the ALP, Denver Water will be sending to interested entities and stakeholders a combined document that includes the Initial Information Package (IIP) and Scoping Document 1 (SD1) as well as the date of the first public Scoping meeting. This document will provide detailed project information and baseline information on resources and environmental issues. The scoping meeting will provide the first opportunity for interested entities and stakeholders to discuss, make recommendations and publicly comment on information included in the combined document.

Thank you for your interest and participation.

Sincerely,

Kevin Urie
Planner

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
ACCEPTANCE FORM

FOR WILLIAMS FORK HYDROPOWER PROJECT NO. 2204

_____ has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory
Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the
"Project").

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all
the interested entities, including federal and state agencies and the Commission, will communicate the
merits of the Project. We understand that all interested entities must adhere to this Protocol in order to
comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

(Name of Authorized Representative)

(Agency)

(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

ATTACHMENT 5

INITIAL MAILING LIST FOR ALTERNATIVE LICENSING PROCESS
Williams Fork Hydroelectric Project, FERC Project No.2204

FEDERAL AGENCIES

Rob Baracker
Bureau of Indian Affairs - Southwest
615 First St. SE
P.O. Box 26567
Albuquerque NM 87125

U.S. Department of Agriculture
Natural Resources Conservation Service
P.O. Box 265
Kremmling CO 80452

Paul Pagner, Chief
US Army Corps of Engineers
Sacramento District
1325 J St.
Sacramento, CA 95814-2928

Ralph Morgenwek
Regional Director
U.S. Fish and Wildlife Service
P.O. Box 25486 (DFC)
Denver, CO 80225

Chief
US Army Corps of Engineers
San Francisco District
333 Market St. Flr 8
San Francisco, CO 94105

Honorable Wayne Allard
US Senate
Washington, DC 20510

Regional Director
Southwest Region
US Bureau Of Indian Affairs
P.O. Box 26567
Albuquerque, NM 87125-6567

Robert E. Rogers
Regional Administrator
US Environmental Protection Agency –
Region 8
999 18th Street Suite 300RA
Denver, CO 80202

Brian Person
Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Rd. 18E
Loveland, CO 80537

Maryanne Bach
Regional Director
U.S. Bureau of Reclamation
Great Plains Region, GP-100
P.O. Box 36900
Billings, MT 59107-6900

Madeline Dzielak
Bureau of Land Management
Kremmling Field Office
P.O. Box 68
Kremmling CO 80459

Operations Manager
Department of Army Corps of Engineers
9307 S. Platte Canyon Rd.
Littleton, CO 80128

Karen Wade
Director Intermountain Region
National Park Service
P.O. Box 25287
Denver, CO 80225-0287

William Becker, Director
U.S. Department of Energy
Denver Regional Office
1617 Cole Blvd.
Golden, CO 80401

Forest Supervisor
Arapaho National Forest
240 W. Prospect Rd.
Ft. Collins, CO 80526

Sulphur Ranger District
U.S. Forest Service
9 Ten Mile Drive
Grandby CO 80446

STATE AGENCIES

Rob Firth
Area Wildlife Manager
Colorado Division of Wildlife Area 9
P.O. Box 216
Hot Sulphur Springs CO 80451

Mike Crosby
Division of Wildlife Manager
Colorado Division of Wildlife Area 9
P.O. Box 216
Hot Sulphur Springs CO 80451

Scott Hummer
Division of Water Resources
P.O. Box 4747
Breckenridge CO 80424

Alan Martellaro
Colorado Division of Water Resources
P.O. Box 396
Glenwood Springs CO 81602

State Historic Preservation Officer
1300 Broadway
Denver CO 80203

U.S. Fish and Wildlife Services
Division of Water Resources
Denver Federal Center P.O. Box 25486
Denver CO 80225

Lee Carlson
U.S. Fish and Wildlife Services
Denver Federal Center P.O. Box 25486
Denver, CO 80225

Dillon Ranger District
U.S. Forest Service
680 Blue River Parkway
Silverthorne CO 80498

George Wear
Colorado Division of Water Resources
P.O. Box 396
Glenwood Springs CO 81602

Aimee Majewski
Colo. Dept. of Public Health & Env.
Water Quality Control Division
4300 Cherry Creek Dr. South
Denver, CO 80246

Karen Wilde Rogers
Colorado Commission of Indian Affairs
130 State Capitol
Denver CO 80203

Robert Zebroski
Director
State Soil Conservation Board
1313 Sherman St., Rm 219
Denver, CO 80203

Rod Kuharich
Colorado Dept. of Natural Resources
Director
Colorado Water Conservation Board
1313 Sherman St., Rm 721
Denver, CO 80203

Bruce Smith
Colorado Public Utilities Commission
1580 Logan St., Level Two
Denver, CO 80203

Hal Simpson
Colorado Department of Natural
Resources
Director, Division of Water Resources
1313 Sherman St. Room 818
Denver, CO 80203

Colorado Office of Attorney General
Regulatory Law Section
1525 Sherman St
Denver, CO 80203

Director
Colo. Division of Parks and Recreation
313 Sherman Room 618
Denver, CO 80203

Beverly Rave
Colorado State Board of Land
Commissioners
P.O. Box 1094
Craig, CO 81626

LOCAL GOVERNMENTS

Bob Anderson
Commissioner
Grand County
P.O. Box 264
Hot Sulphur Springs CO 80451

Kevin Batchelder
Town Manager
Town of Silverthorne
P.O. Box 1309
Silverthorne CO 80498

Stan Bernal
Mayor
Town of Hot Sulphur Springs
P. O. Box 116
Hot Sulphur Springs CO 80451

Michael Bertaux
Council Member
Town of Breckenridge
P.O. Box 12
Breckenridge CO 80424

Julie Boyd
Manager
Town of Dillon
P.O. Box 8
Dillon CO 80435

Clay Brown
City Manager
Town of Frisco
P.O. Box 4100
Frisco CO 80443

Sheriff Rod Johnson
Grand County Sheriff's Department
P.O. Box 48
Hot Sulphur Springs, CO 80451

Jim Cervenka
Town Manager
Town of Grand Lake
P.O. Box 6
Grand Lake CO 80447

Jim Cordell
Public Works Director
Town of Winter Park
P.O. Box 3327
Winter Park CO 80482

County Manager
Summit County
P.O. Box 68
Breckenridge CO 80424

Duane Dailey
Commissioner
Grand County
P.O. Box 264
Hot Sulphur Springs CO 80451

Lou Del Piccolo
Mayor
Town of Silverthorne
PO Box 1309
Silverthorne CO 80498

Anthony Dicola
Grand County
P.O. Box 264
Hot Sulphur Springs CO 80451

Tim Gagen
Town Manager
Town of Breckenridge
P.O. Box 168
Breckenridge CO 80424

Tom Hale
Town Manager
Town of Granby
P.O. Box 440
Granby CO 80446

Dave Koop
Council Member
Town of Silverthorne
P.O. Box 1309
Silverthorne CO 80498

David Lamb
Council Member
Town of Breckenridge
P.O. Box 3854
Breckenridge CO 80424

Gary Lindstrom
Commissioner
Summit County
P.O. Box 68
Breckenridge CO 80424

Tom Long
Commission Chair
Summit County
P. O. Box 68
Breckenridge CO 80424

Samuel Mamula
Mayor
Town of Breckenridge
P.O. Box 168
Breckenridge CO 80424

Bob Moscatelli
Mayor
Town of Frisco
P.O. Box 4100
Frisco CO 80443

James Newberry
Commission Chair
Grand County
P.O. Box 264
Hot Sulphur Springs CO 80541

Roger Pelot
Mayor
Town of Dillon
P.O. Box 8
Dillon CO 80435

Ben Raitano
Council Member
Town of Dillon
P.O. Box 8
Dillon CO 80435

Chuck Swanson
Engineer
Town of Winter Park
P.O. Box 3327
Winter Park CO 80482

Steve Swanson
Council Member
Town of Silverthorne
P.O. Box 1309
Silverthorne CO 80498

Peg Toft
Mayor
Town of Kremmling
P.O. Box 538
Kremmling CO 80459

Vince Turner
Council Member
Town of Winter Park
P.O. Box 3077
Winter Park CO 80482

Lurline Underbrink-Curran
County Manager
Grand County
P.O. Box 264
Hot Sulphur Springs CO 80451

Grand County Dept. of Planning and
Zoning
P.O. Box 239
Hot Sulphur Springs CO 80451

LOCAL WATER AGENCIES

Eric Kuhn
Colorado River Water Conservation
Dist.
P.O. Box 1120
Glenwood Springs CO 81602

Christopher Treese
Colorado River Water Conservation
District
P.O. Box 1120
Glenwood Springs CO 81602

Donald Van Wormer
City Manager
Town of Kremmling
P.O. Box 538
Kremmling CO 80459

Bill Wallace
Commissioner
Summit County
P.O. Box 68
Breckenridge CO 80424

Ted Wang
Trustee
Town of Granby
P.O. Box 440
Granby CO 80446

John Zdechlik
Council Member
Town of Frisco
P.O. Box 4100
Frisco CO 80443

Eric Wilkinson
General Manger
Northern Colo. Water Conservancy
District
1250 North Wilson (P.O. Box 679)
Loveland, CO 80537

Sally Blea
Three Lakes Water & San. District
P.O. Box 899
Grand Lake CO 80447

Greg Brown
Breckenridge Sanitation District
P.O. Box 1216
Breckenridge CO 80424

Andy Carlberg
Breckenridge Sanitation District
P.O. Box 1216
Breckenridge CO 80424

Stanley Cazier
Middle Park Water Conservation District
P.O. Box 500
Granby CO 80446

Gary Drescher
Buffalo Mountain Metro District
P.O. Box 2430
Silverthorne CO 80498

Jack Buchheister
President
Winter Park Water & Sanitation District
P.O. Box 7
Winter Park CO 80482

Gary Eddy
Columbine Lake Water & Sanitation
P.O. Box 555
Grand Lake CO 80447

Tammy Granger
Granby Sanitation District
P.O. Box 560
Granby CO 80446

Butch Green
Frisco Sanitation Dist.
P.O. Box 601
Frisco CO 80443

Jamie Huish
Kremmling Sanitation District
P.O. Box 538
Kremmling CO 80459

Bob Polich
East Dillon Water District
P.O. Box 627
Frisco CO 80443

Bob Polich
Hamilton Creek Metro District
P.O. Box 627
Frisco CO 80443

Nick Tacinas
Three Lakes Water & San. District
P.O. Box 899
Grand Lake CO 80447

Francis Winston
Dillon Valley Metro District
P.O. Box 669
Dillon CO 80435

East Grand Water Quality Board
P.O. Box 3077
Winter Park CO 80482

ENVIROMENTAL & RECREATION ORGANIZATIONS & INDIVIDUALS

Landis Arnold
6349 Bluebird Ave
Niwot CO 80503

Bernie Baltich
Osprey Adventures
P.O. Box 1937
Frisco CO 80443

Bob Bond
Breckenridge Outdoor Education Center
P.O. Box 697
Breckenridge CO 80424

Sandra Borrás
Red Tail Rafting
P.O. Box 2331
Fraser CO 80442

Vince Brenner
P.O. Box 2112
Granby CO 80446

Brad Buchanan, AIA
Buchanan Yonushewski Group
825 Logan Street
Denver CO 80203

John Cantamess
Highside Adventure Tours
183 Meadow Drive
Dillon CO 80435

Joanne Carter
Wilderness Society
7475 Dakin Street, Suite 410
Denver CO 80221

Marty Cecil
Elktrout Lodge
P.O. Box 614
Kremmling CO 80459

Jason Cross
Devil's Thumb Ranch Resort
P.O. Box 750
Tabernash CO 80478

Gary Elliott
12965 Pensacola Pl
Denver CO 80239

Dale Fields
Summit Guides, Inc.
P.O. Box 2489
Dillon CO 80435

Richard Fitzgerald
Fitz and Chico's Fly Fishing Guide
Service
P.O. Box 129
Dillon CO 80435

Kevin Foley
Performance Tours
P.O. Box 7305
Breckenridge CO 80424

Mike Fox
Native American Fish and Wildlife
Society
750 Burbank
Broomfield CO 80020

John Gangemi
Conservation Director
American Whitewater
482 Electric Avenue
Bigfork MT 59911

Chad Gorby
Summit Kayak / Center for Adaptive
Paddling
P.O. Box 3935
Breckenridge CO 80424

Governmental Affairs
Public Service Company
P.O. Box 8840
Denver CO 80201

Dave Hargadine
Colorado Blue Adventures
P.O. Box 1147
Kremmling CO 80459

Roger Hedlund
Mad Adventures
P.O. Box 650
Winter Park CO 80482

Zeke Hersh
Blue River Anglers, Inc.
P.O. Box 848
Breckenridge CO 80424

Bill Hughes
Colorado Assn. 4-Wheel Dr. Clubs, Inc.
2201 S. Dearborn Street
Aurora CO 80014

Jennifer Kirby
Keystone Resort
P.O. Box 38 - K69
Keystone CO 80435

Don Kosnik
160 E. First
Yampa CO 80483

Steve Lipsher
Denver Post
P.O. box 2238
Silverthorne CO 80498

Kimi Matsumoto
National Wildlife Federation
2260 Baseline Rd.
Boulder CO 80302

Dale Mitchener
Lake and Stream Guides
1534 Heeney Road 30 Blue River Route
Silverthorne CO 80498

Glenn Morse
Breckenridge Whitewater Rafting
P.O. Box 3732
Dillon CO 80435

David Nickum, Executive Director
Colorado Trout Unlimited
1966 13th Street, Suite LL60
Boulder, CO 80302

Teri Schulz
The Nature Conservancy
2424 Spruce Street
Boulder CO 80302

Paul Ohri
Grand County
308 Byers Ave
Hot Sulphur Springs CO 80451

Hal O'Leary
National Sports Center for the Disabled
P.O. Box 36
Winter Park CO 80484

Dave Parri
Parri's Outfitting & Guide Service
P.O. Box 254
Hot Sulphur Springs CO 80451

Jennifer Pratt Miles
Shaping Our Summit
105 Village Place
P.O. Box 1829
Dillon CO 80203

President
Colo. Archeological Society
P.O. Box 18301
Boulder CO 80308

Buford Rice
Colo. Public Lands Multiple Use
Coalition
P.O. Box 5647
Denver CO 80217

Barry Kirkpatrick
Cutthroat Anglers, LLC
P.O. Box 2540
Silverthorne CO 80498

Rob Scott
946 Arapahoe Cir
Lewisville CO 80027

John Streit
Mountain Angler
P.O. Box 467
Breckenridge CO 80424

Todd Toledo
Monarch Guides
P.O. Box 214
Winter Park CO 80482

Paul Trubell
Colorado River Anglers
468 Hillside Drive
Silverthorne CO 80498

Doug Weimer
P.O. Box 69
Hot Sulphur Springs CO 80451

Colorado Wildlife Federation
445 Union Blvd. #302
Lakewood CO 80228

Rocky Mountain Trials Assn.
16475 E. 11th Ave.
Aurora CO 80011

Bar Lazy J Guest Ranch
Box N
Parshall CO 80468

National Audubon Society
Colorado State Office
3107 28th St. Suite B
Boulder CO 80301

Middle Park Land Trust
P.O. Box 1938
Grandby CO 80446

Colorado State University
Cooperative Extension of Grand County
210 11th Street Fairgrounds
Kremmling CO 80452

Grand County Colorado Tourism Board
P.O. Box 131
Grandby CO 80446

Sierra Club - Rocky Mountain
1410 Grant St # B205
Denver CO 80203

Representative of the Shoshone Tribe
P.O. Box 217
Ft. Washakie WY 80251

Tribal Government
Ute Mountain Ute Tribe
Mike Wash Road Tribal Complex
Towaoc CO 81334

Southern Ute Tribal Council
P.O. Box 737
Ignacio CO 81137

Executive Director
Denver Indian Center
4407 Morrison Rd.
Denver CO 80219

Mark Belles
9318 Willard St.
Rowlett, TX 75088-4403

Elise Jones, Executive Director
Colorado Environmental Coalition
1536 Wynkoop St. 5 C
Denver, CO 80202

Pete Kolbensschlag
Colorado Environmental Coalition
1000 N 9th Street #29
Grand Junction, CO 80501

Paul Karres
Foundation for North American Wild
Sheep
720 Allen Ave
Cody, WY 82414

John Fisher
137 County Road 39
Kremmling, CO 80459

02 APR 25 PM 6:39

ORIGINAL

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80254
Phone (303) 628-6000 • Fax No. (303) 628-6199

FILED
OFFICE OF THE SECRETARY
02 MAY 13 PM 2:52
FEDERAL ENERGY
REGULATORY COMMISSION

May 7, 2002

Re: Williams Fork Reservoir Hydroelectric Project, FERC Project No.2204 – Revised
Communications Protocol

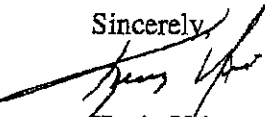
Dear Interested Entity:

Denver Water is sending a revised copy of the Communications Protocol for the relicensing of the Williams Fork Reservoir Hydroelectric Project. Per request by American Whitewater, Denver Water has added a forth bullet on page 2, paragraph B. "Public Meetings" to clarify Denver Water's intent to provide written documentation of public meetings. The new bullet reads as follows:

- "Denver Water will provide written documentation of public meetings (meeting minutes), followed by a two week public review and comment period. After the two week public review and comment period has concluded, and any corrections or additions to the meeting minutes are made, the meeting minutes will be considered final."

Please replace the Communication Protocol originally sent to you with this revised version.

Sincerely,


Kevin Urie
Project Coordinator
Denver Water Department

Cc: Secretary, FERC

Enclosure

CONSERVE

Communications Protocol

Williams Fork Reservoir Hydroelectric Project

FERC Project No. 2204

Introduction

The following document provides a guideline for communications and coordination among the interested entities, including the City and County of Denver, acting by and through its Board of Water Commissioners (“Denver Water”), the Federal Energy Regulatory Commission (the “Commission”), agencies, special interest groups, and interested individuals, involved in the preparation of the Preliminary Draft Environmental Assessment (“PDEA”) for Williams Fork Reservoir, Project No. 2204.

Denver Water, the applicant, is preparing a PDEA under the Commission’s Alternative Licensing Process (the “ALP”) and will file it with the Commission when the license application is filed. The PDEA will replace Exhibit E usually required by the Commission in traditional license applications.

Proper communication among all interested entities in this process is critical, and the Commission’s ex parte communications regulations (18 CFR 385.2201) apply to this process. This communications protocol will ensure that all information is conveyed among the interested entities in a regular and predictable manner, and that all ex parte communications regulations are followed.

Communication Procedures

- A. ***Public Reference Files.*** There will be two public reference files for this project, one with Denver Water and the other with the Commission. The respective addresses of the two public reference files are:

Kevin Urie
Planning Division
Denver Water Department
1600 W. 12th Ave.
Denver, CO 80204

Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

- B. ***Public Meetings.*** There will be at least one public scoping meeting or a paper scoping meeting for this project scheduled for some time in the Spring of 2002. This meeting will

be used as a scoping meeting for the National Environmental Policy Act ("NEPA") process. An additional public meeting will be held to discuss and receive comments on the draft license application and the PDEA. The time and location of these meetings have not yet been determined. These meetings, and any other public meetings that may be held for the Project, shall use the following procedures for notifying the public and all interested entities:

- Denver Water will publish notification of the meeting in the Rocky Mountain News, the Denver Post, the Grand County Tribune and the Summit Daily News two weeks prior to the meeting date;
- Denver Water will provide notification of the meeting to all those interested entities on the project's distribution list, attached hereto; and
- The Commission will notice the meetings in the Federal Register, at least two weeks prior to the meeting date.
- Denver Water will provide written documentation of public meetings (meeting minutes), followed by a two week public review and comment period. After the two week public review and comment period has concluded, and any corrections or additions to the meeting minutes are made, the meeting minutes will be considered final.

C. **Notices.** Noticing procedures for public meetings are described above. In addition to mailing the PDEA to the project distribution list, the following procedures are to be followed for notifying the public and all other interested entities of the availability of the PDEA:

- Denver Water will publish a notice of the availability of the PDEA in the Rocky Mountain News, the Denver Post, the Grand County Tribune and the Summit Daily News; and
- The Commission will notice the availability of the PDEA in the Federal Register.

D. **Coordination Meetings.** Meetings between those involved in preparing the PDEA (for example, between Denver Water and an agency) may occur on an "as needed" basis. Though these meetings need not be open to the public, the party requesting the meeting shall prepare a detailed summary of the meeting, circulate the summary to all interested entities for comment, and finally place the summary in both public reference files for this Project (see A above). It is not necessary for every agency or group to participate in a given meeting.

E. **Teleconference Calls.** Teleconference calls between those involved in preparing the PDEA may also occur on an "as needed" basis. A summary of the teleconference call

shall be prepared by the party who initiated the call and must be placed in both public reference files for this Project (see A above). If a relevant telephone conversation takes place between a signatory to this Protocol and an individual who is not a participant, the signatory shall follow this Protocol.

- F. ***Written Communications.*** All written communications that need to be part of the public record shall be placed in both public reference files for this Project (see A above). Examples of such written communications include comment letters, meeting summaries, teleconference call summaries, progress reports, and any other written information pertinent to this Project. All written communications must have the following clearly displayed on the first page:

Williams Fork Reservoir Hydroelectric Project (FERC No. 2204).

All written communications must be mailed to both public files. No facsimile communications will be accepted in either file, but electronic documents will be accepted for both public files.

- G. ***Communications with Commission Staff.*** The Commission has determined that its ex parte rules will apply to all communications in this proceeding. Any person may communicate orally with Commission staff during the licensing process. Such communications may concern the procedure or the merits of the process, including preparation of the PDEA, and may take place without prior notice to the other participants. All written communications with the Commission or its staff from any of the participants must be placed in both public reference files for this project (See A above).

With respect to any oral communication with Commission staff, the communication shall be summarized in a written memorandum prepared by the Commission staff member participating in the discussion, or by another participant in the discussion designated by the Commission staff member. The memorandum shall be promptly placed in both public reference files for the project (See A above).

- H. ***6-Month Progress Reports.*** (18 CFR 4.34 (i)(6)(ii)). Following the Commission's acceptance of the use of the ALP and every 6 months thereafter, Denver Water will file a report summarizing the progress made in the pre-filing consultation process, referencing the public file and summaries or minutes from public meetings. Such progress reports shall also be sent to each participant that requests a copy.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

NOTICE OF REQUEST TO USE ALTERNATIVE PROCEDURES
IN PREPARING A LICENSE APPLICATION

(May 9, 2002)

Take notice that the following request to use alternative procedures to prepare a license application has been filed with the Commission.

- a. Type of Application: Request to use alternative procedures to prepare a new license application.
- b. Project No.: 2204
- c. Date filed: April 24, 2002
- d. Applicant: City and County of Denver, Colorado, acting by and through its Board of Water Commissioners (Denver Water)
- e. Name of Project: Williams Fork Reservoir Project
- f. Location: On the Williams Fork River, in Grand County, northern Colorado. The project occupies no federal lands.
- g. Filed Pursuant to: Federal Power Act, 16 USC §§791(a) - 825(r).
- h. Applicant Contact: Kevin Urie, Licensing Project Manager, Denver Water, 1600 West 12th Avenue, Denver, CO 80254, (303)628-5987.
- i. FERC Contact: Dianne Rodman at (202) 219-2830; e-mail dianne.rodman@ferc.gov
- j. Deadline for Comments: 30 days from the date of this notice.

All documents (original and eight copies) should be filed with: Magalie R. Salas, Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426.

Comments may be filed electronically via the Internet in lieu of paper. See 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's web site (<http://www.ferc.gov>) under the "e-Filing" link.

k. The existing 3.0-megawatt project consists of a 706-foot-long, 217-foot-high dam; an impoundment with a storage capacity of 96,822 acre-feet; a power plant with one turbine and one generator; and appurtenant facilities.

l. A copy of the request to use alternative procedures is on file with the Commission and is available for public inspection. This filing may also be viewed on the web at <http://www.ferc.gov> using the "RIMS" link--select "Docket #" and follow the instructions (call 202-208-2222 for assistance). A copy is also available for inspection and reproduction at the address in item h above.

m. Denver Water has demonstrated that it has made an effort to contact all federal and state resources agencies, non-governmental organizations (NGOs), and others affected by the project. Denver Water has also demonstrated that a consensus exists that the use of alternative procedures is appropriate in this case. Denver Water has submitted a communications protocol that is supported by the majority of stakeholders. Denver Water intends to file 6-month progress reports during the alternative procedures process that leads to the filing of a license application by December 31, 2004.

The purpose of this notice is to invite any additional comments on Denver Water's request to use the alternative procedures, pursuant to Section 4.34(i) of the Commission's regulations. Additional notices seeking comments on the specific project proposal, interventions and protests, and recommended terms and conditions will be issued at a later date. Denver Water will complete and file a preliminary Environmental Assessment, in lieu of Exhibit E of the license application. This differs from the traditional process, in which an applicant consults with agencies, Indian tribes, NGOs, and other parties during preparation of the license application and before filing the application, but the Commission staff performs the environmental review after the application is filed. The alternative procedures are intended to simplify and expedite the licensing process by combining the pre-filing consultation and environmental review processes into a single process, to facilitate greater participation, and to improve communication and cooperation among the participants.

Linwood A. Watson, Jr.
Deputy Secretary

ORIGINAL

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80254
Phone (303) 628-6000 • Fax No. (303) 628-6199

FILED
02 MAY 13 PM 2:52
FEDERAL ENERGY
REGULATORY COMMISSION

May 10, 2002

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

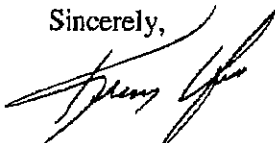
Subject: **Williams Fork Reservoir Hydroelectric Project, FERC No. 2204**
Transmittal of Denver Water's Revised Communications Protocol

Dear Ms. Salas,

Enclosed is a copy of Denver Water's revised Communications Protocol. Denver Water added a bullet point to paragraph B on page 2 of the original protocol to clarify that Denver Water will provide written documentation of public meetings, followed by a two week public review and comment period. I have faxed a copy of this letter and enclosure to Dianne Rodman and Federal Expressed nine copies of the letter and enclosure to the Office of the Secretary.

If you have questions regarding this transmittal, please contact me at (303) 628-5987.

Sincerely,



Kevin Urle
Relicensing Project Coordinator

Enclosure (1)

0205140114.3


FERC DOCKETED

CONSERVE

ORIGINAL

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80202
Phone (303) 628-6000 • Fax No. (303) 628-6199

FILED
02 MAY 13 PM 2:52

FEDERAL ENERGY
REGULATORY COMMISSION

May 10, 2002

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

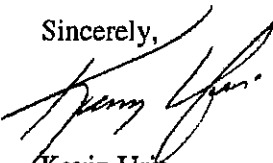
Subject: Williams Fork Reservoir Hydroelectric Project, FERC No. 2204
Transmittal of Additional Acceptance Forms from Interested Entities on Denver
Water's Communications Protocol and Use of the ALP

Dear Ms. Salas,

Enclosed are copies of additional acceptance forms submitted by interested entities agreeing to Denver Water's use of the ALP and approval of the Communications Protocol. These acceptance forms were received after Denver Water submitted its letter request and package to the FERC for approval to use the ALP. I have faxed a copy of this transmittal letter and enclosures to Dianne Rodman. Additionally, we have Federal Expressed nine copies of this letter and the enclosures to the Office of the Secretary.

If you have questions regarding this transmittal, please contact me at (303) 628-5987.

Sincerely,



Kevin Urfe
Relicensing Project Coordinator

Enclosure (2)

020514.0113.3

FERC BOOKETED

CONSERVE

RECEIVED

APR 26 2002

PLANNING
DENVER WATER

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
ACCEPTANCE FORM

FOR WILLIAMS FORK HYDROPOWER PROJECT NO. 2204

ORIGINAL

RECEIVED

APR 26 2002

PLANNING
DENVER WATER

(Entity)

Town of Keeneland has been notified of and accepts Denver Water's

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project").

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

- We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

[Signature]
(Name of Authorized Representative)

(Agency)

Town of Keeneland

(Date)

4-24-02

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

RECEIVED

MAY 09 2002

ACCEPTANCE FORM

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
FOR
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC PROJECT NO. 2204

**PLANNING
DENVER WATER**

Grand County has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the "Project.")

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all the interested entities, including federal and state agencies and the Commission, will communicate the merits of the Project. We understand that all interested entities must adhere to this Protocol in order to comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

James L. Newberry, Chairman
(Name of Authorized Representative)

Board of County Commissioners, County of Grand
(Agency)

April 9, 2002
(Date)

Please Return Form by March 18, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204

COMMUNICATIONS PROTOCOL AND USE OF THE ALP
ACCEPTANCE FORM

FOR WILLIAMS FORK HYDROPOWER PROJECT NO. 2204

Colorado Trout Unlimited has been notified of and accepts Denver Water's
(Entity)

request to use the Alternative Licensing Process (ALP) to seek renewal of its Federal Energy Regulatory
Commission ("FERC") license for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (the
"Project").

We also have reviewed the Communications Protocol and agree to the proposed methods dictating how all
the interested entities, including federal and state agencies and the Commission, will communicate the
merits of the Project. We understand that all interested entities must adhere to this Protocol in order to
comply with the Commission's ex parte rules.

We accept Denver Water's use of the ALP and approve the proposed Communications Protocol.

Sincerely,

David Nelson
(Name of Authorized Representative)

Colorado Trout Unlimited
(Agency)

6/13/07
(Date)

Please Return Form by March 22, 2002, to:
Denver Water
Attn: Kevin Urie
1600 W. 12th Avenue
Denver, CO 80204
Fax 303-628-6852
kevin.urie@denverwater.org

0206280280.3

FILED
OFFICE OF THE
SECRETARY
2002 JUN 20 PM 3:02
FEDERAL ENERGY
REGULATORY COMMISSION

FERC DOCKETED

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

NOTICE OF COMBINED INITIAL INFORMATION MEETING AND SCOPING
MEETING, PROJECT SITE VISIT, AND SOLICITATION OF SCOPING
COMMENTS FOR AN APPLICANT-PREPARED ENVIRONMENTAL
ASSESSMENT USING THE ALTERNATIVE LICENSING PROCESS

May 12, 2003

- a. Type of Application: Alternative Licensing Process
- b. Project No.: 2204-019
- c. Applicant: City and County of Denver, Colorado
- d. Name of Project: Williams Fork Reservoir Project
- e. Location: On the Williams Fork River near its confluence with the Colorado River at Parshall, in Grand County, Colorado. No federal lands would be affected.
- f. Filed Pursuant to: Federal Power Act, 16 USC §§791(a) - 825(r).
- g. Applicant Contact: Kevin Urie, Denver Water, 1600 W. 12th Ave., Denver, CO 80204, (303) 628-5987.
- h. FERC Contact: Dianne Rodman, at (202) 502-6077 or dianne.rodman@ferc.gov.
- j. Deadline for filing scoping comments: August 4, 2003.

Comments should be addressed to:

Mr. Kevin Urie
Project Coordinator - Williams Fork Project Relicensing
Denver Water
1600 W. 12th Ave.
Denver, CO 80204

All documents (original and eight copies) should also be filed with: Magalie R. Salas, Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426.

The Federal Energy Regulatory Commission's (Commission) Rules of Practice and Procedure require all interveners filing documents with the Commission to serve a copy of that document on each person on the official service list for the project. Further, if an intervener files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource agency, they must also serve a copy of the document on that resource agency.

Scoping comments may be filed electronically via the Internet in lieu of paper. The Commission strongly encourages electronic filings. See 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's web site (<http://www.ferc.gov>) under the "e-Filing" link.

k. The existing project consists of: (1) the 209-foot-high, 670-foot-long concrete thin arch dam with a crest elevation of 7,814 feet above mean sea level (msl); (2) the Williams Fork reservoir with a surface area of 1,628 acres and storage of 96,822 acre-feet at elevation 7,811 feet msl; (3) a reinforced concrete penstock intake on the face of the dam, with a 7-foot by 5-foot fixed wheel penstock gate controlling flows into a 66-inch-diameter steel penstock running through the dam; (4) river outlet works on the face of the dam, leading to a 54-inch-diameter steel embedded pipe that conveys water to the outlet works valves; (5) a 66-foot-long, 30-foot-wide, 60-foot-high concrete powerhouse at the toe of the dam, containing one vertical-axis turbine/generator with a capacity of 3,150 kilowatts (kW); (6) a tailrace excavated in the streambed rock, carrying the combined powerhouse and river outlet discharges; (7) a 60-foot by 40-foot switchyard; (8) and appurtenant equipment.

The applicant proposes to submit a license application that may request the Commission to first review the application for a small hydroelectric power project exemption from licensing, or alternatively for a new license. Under the exemption alternative, the applicant would increase the project's generating capacity to 3,650 kW by installing a second turbine/generator. Under the relicensing alternative, the applicant would continue to operate the existing turbine/generator with a 3,150-kW capacity and would not install a second unit.

Scoping Process

The City and County of Denver, Colorado, acting by and through its Board of Water Commissioners (Denver Water), intends to utilize the Commission's alternative licensing process (ALP). Under the ALP, Denver Water intends to prepare an Applicant Prepared Environmental Assessment (APEA) and exemption/license application for the Williams Fork Reservoir Hydroelectric Project.

Denver Water expects to file with the Commission, the APEA and the exemption/license application for the Williams Fork Reservoir Hydroelectric Project by December 31, 2004. Although Denver Water's intent is to prepare an EA, there is the possibility that an Environmental Impact Statement (EIS) will be required. Nevertheless, this meeting will satisfy the NEPA scoping requirements, irrespective of whether an EA or EIS is issued by the Commission.

The purpose of this notice is to inform you of the opportunity to participate in the upcoming scoping meetings identified below, and to solicit your scoping comments.

Site Visit

On Wednesday, June 4, 2003, from 11:00 a.m. until 3:30 p.m., a site visit of the project will be conducted. The site visit is intended to provide the opportunity for interested individuals to learn more about the project, its operations, and the surrounding environment. Those wishing to attend should meet in Kremmling, Colorado by 11:00 a.m. at the Colorado State University Cooperative Extension of Grand County office (210 11th Street, Fairgrounds, Kremmling, CO, (970) 724-3436). Please contact Mr. Joe Sloan of Denver Water at (303) 628-6320 by May 26, 2003, if you plan to attend the site visit.

Scoping Meetings

Denver Water and the Commission staff will hold two scoping meetings, one in the daytime and one in the evening, to help us identify the scope of issues to be addressed in the APEA.

The daytime scoping meeting will focus on resource agency concerns, while the evening scoping meeting is primarily for public input. All interested individuals, organizations, and agencies are invited to attend one or both of the meetings, and to assist the staff in identifying the environmental issues that should be analyzed in the APEA. The times and locations of these meetings are as follows:

Daytime Meeting

Thursday, June 5, 2003
1:00 p.m. to 4:00 p.m.
Colorado State Cooperative Extension
210 11th Street
Fairgrounds
Kremmling, CO

Evening Meeting

Thursday, June 5, 2003
6:00 p.m. to 9:00 p.m.
Colorado State Cooperative Extension
210 11th Street
Kremmling, CO

To help focus discussions, an initial information package (IIP) and Scoping Document 1 was mailed in April 2003, outlining the subject areas to be addressed in the APEA to the parties on the mailing list. Copies of the IIP and SD1 also will be available at the scoping meetings. The IIP and SD1 are available for review at the Commission in the Public Reference Room or may be viewed on the Commission's website at <http://www.ferc.gov> using the "FERRIS" link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll-free at 1-866-208-3676, or for TTY, (202) 502-8659.

Register online at <http://www.ferc.gov/esubscribenow.htm> to be notified via email of new filings and issuances related to this or other pending projects. For assistance, contact FERC Online Support.

Based on all written comments received, a Scoping Document 2 (SD2) may be issued. SD2 will include a revised list of issues, based on the scoping sessions.

Objectives

At the scoping meetings, the staff will: (1) summarize the environmental issues tentatively identified for analysis in the APEA; (2) solicit from the meeting participants all available information, especially quantifiable data, on the resources at issue; (3) encourage statements from experts and the public on issues that should be analyzed in the

APEA, including viewpoints in opposition to, or in support of, the staff's preliminary views; (4) determine the resource issues to be addressed in the APEA; and (5) identify those issues that require a detailed analysis, as well as those issues that do not require a detailed analysis.

Procedures

The meetings will be recorded by a stenographer and will become part of the formal record of the Commission proceeding on the project.

Individuals, organizations, and agencies with environmental expertise and concerns are encouraged to attend the meetings and to assist Denver Water in defining and clarifying the issues to be addressed in the APEA.

Magalie R. Salas
Secretary



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Denver Federal Center, Building 56, Room 1003
P.O. Box 25007 (D-108)
Denver, Colorado 80225-0007

02 JUN 10 PM 1:47
FEDERAL ENERGY
REGULATORY COMMISSION
June 7, 2002

ER 02/0450

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

COMMENTS on Williams Fork Reservoir Project, FERC No. 2204, Notice of Alternative Administrative Procedure, Grand County, Colorado

Dear Ms. Salas:

The Department of the Interior has reviewed FERC's Notice of Alternative Procedure for Williams Fork Reservoir Project, No. 2204, Grand County, Colorado, dated May 9, 2002. The Department does not object to the applicant's request to use alternative procedures, and our applicable bureaus will participate in that process, subject to limitations of available staffing and funding.

We wish to point out that the Notice states that the project does not occupy Federal lands. However, the Bureau of Land Management administers about 40 acres downstream from the dam, which could be impacted depending on water depletions. The Kremmling Field Office of BLM has been directly involved with this project and has corresponded on the initial notice concerning the use of the alternative process. The BLM contact in that office is Madeline Dzielak, who may be called at (970) 724-3003. The lead field office for the U.S. Fish and Wildlife Service on this project is located in Grand Junction, Colorado, and the supervisor is Al Pfister, who may be called at (970) 243-2778.

Sincerely,

Robert F. Stewart
Regional Environmental Officer

cc:
Director, Division of Hydropower Administration & Compliance
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Kevin Urie
Licensing Project Manager
Denver Water
1600 West 12th Avenue
Denver, CO 80254

0206120204-3

FERC DOCKETED

COPY

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
June 21, 2002

OFFICE OF ENERGY PROJECTS

Project No. 2204 - Colorado
Williams Fork Hydroelectric Project
City and County of Denver, Colorado

H.J. Barry, Manager
Denver Water Department
1600 West 12th Avenue
Denver, CO 80254

Reference: Approval to Use Alternative Licensing Procedures

Dear Mr. Barry:

Thank you for your April 17, 2002, request to use the alternative procedures in relicensing the existing Williams Fork Project (FERC No. 2204). We've reviewed your request and the comments filed by the American Whitewater Affiliation and the Colorado White Water Association, jointly (Whitewater Groups), and the Department of the Interior (Interior) in response to our May 8, 2002, notice of your request.

Interior concurred with the use of alternative procedures.

The Whitewater Groups, in their June 6, 2002, comments and protest, provided recommendations on the Communications Protocol relating to, among other things, late participation, facilitation, decision-making, dispute resolution, and document production. These recommendations are substantially the same as those that the Whitewater Groups provided to Denver Water in a letter dated March 25, 2002. Denver Water addressed the Whitewater Groups' recommendations in a letter dated April 11, 2002, saying that some of the recommendations concern details of the alternative procedures more appropriately defined at or after the Initial Scoping meeting. We agree. Therefore, to address these remaining concerns, we recommend that additional consultation be conducted with all of the parties and the Communications Protocol be revised as necessary. Any revisions should be filed with the Secretary of the Commission.

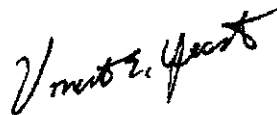
0406240255-3

DOCKETED
G

We have one additional recommendation regarding your draft Communications Protocol. Order 607 (Regulations Governing Off-the-Record Communications), issued by the Commission on September 15, 1999, emphasizes that projects in the pre-filing stages are not subject to the *ex parte* rule. Therefore, we recommend that you discuss Order 607 with the parties and at a minimum remove the wording in the section of the draft Communications Protocol entitled **Communications with FERC Staff** that states the *ex parte* rule applies to all FERC communications.

The Commission recognized the possibility in the final rule on the alternative procedures, that there might be uncertainty about the process at the outset, but said that in such situations it was worth trying the alternative procedures rather than closing the door on this option. Therefore, I am approving your request to follow the alternative procedures in accordance with the Commission's Regulations for Licensing Hydroelectric Projects at 18 CFR § 4.34(I). If you have any questions, please call Dianne Rodman at (202) 219-2830.

Sincerely,

A handwritten signature in black ink, appearing to read "V. Michael F. Gault".

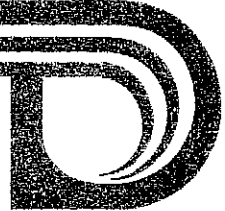
Acting Branch Chief
Hydro West Branch 1

cc: Public Files
Mailing List

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80204-3412
Phone 303-628-6000 • Fax No. 303-628-6199

PUBLIC INFORMATION



Date: April 8, 2003

To: Organizations and Groups Interested in Williams Fork Reservoir Relicensing Project
(FERC No. 2204)

From: Joe Sloan, Community Relations, Denver Water

RE: Update of our Mailing List – A few minutes of your time

Denver Water recently received the Federal Energy Regulatory Commission (FERC) comments on the Initial Information Package (IIP) and Scoping Document 1 (SD1) for the Williams Fork Relicensing Project. We anticipate sending out copies of these documents for public review in the next two weeks. SD1 will include the time and location for the public scoping meetings anticipated to occur in mid to late May.

If there are any corrections to your mailing address or the contact person please contact me.

The IIP and SD1 in total will include 120 to 130 pages of documentation. I am interested to hear from any organization or individual on the mailing list who is NOT interested in receiving a copy of these documents. A copy of both documents will be sent to all 145 groups and individuals on our mailing list unless I hear from you otherwise.

Denver Water is interested in having a wide variety of stakeholders involved in the process. However, in an effort to save resources I want to make sure all the organizations and individuals on our mailing list are interested in receiving these two documents and being a part of the relicensing process.

The public scoping meetings will be noticed by the Federal Energy Regulatory Commission (FERC) in the Federal Register as well as being advertised in local newspapers. A copy of the notice will also be mailed to all those on our mailing list.

Again, every organization and individual who received this mailing will receive a copy of these documents unless you contact me by Friday April 18, 2003.

Joe Sloan

303-628-6320 or 1-800-610-6393 ext 6320

fax 303-628-6349

joseph.sloan@denverwater.org

Thanks for your time and we hope you will continue to be part of this process if it is of interest to you or your organization. There is some basic information on the Williams Fork Relicensing Project on Denver Water's web site at www.denverwater.org. For further information you can contact me or Kevin Urie, Denver Water, 303-628-5987 or kevin.urie@denverwater.org.

CONSERVE

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80204-3412
Phone 303-628-6000 • Fax No. 303-628-6199

OFFICE OF THE SECRETARY

03 APR 30 AM 10:47

FEDERAL ENERGY
REGULATORY COMMISSION

April 23, 2003

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

ORIGINAL

Subject: **Williams Fork Reservoir Hydroelectric Project, FERC No. 2204**
Transmittal of Initial Information Package (IIP) and Scoping Document 1 (SD1)

Dear Ms. Salas,

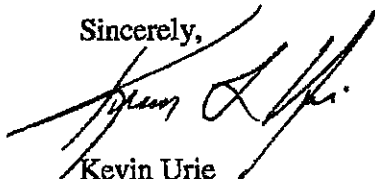
In 2001, Denver Water filed its Notice of Intent to relicense the Williams Fork Hydroelectric Project, FERC Project No. 2204 (Project) with a dual purpose, first to seek a small hydroelectric project exemption and secondarily a new license. Subsequently, Denver Water made a reasonable effort to contact all resource agencies, Indian tribes, citizens groups and others affected by Denver Water's proposal to gain consensus on the use of the Alternative Licensing Process (ALP) and to gain support on a communications protocol (submitted to the Commission as revised on May 7, 2002). Denver Water now files its Initial Consultation Package (IIP) and Scoping Document 1 (SD1) for the Project.

Denver Water is asking stakeholders to review both the IIP and SD1 in preparation for NEPA Scoping that will occur no earlier than 30 days, but no later than 60 days after transmittal of this IIP and SD1. The IIP is intended to provide general Project information and SD1 identifies environmental issues associated with the Project. The stakeholders will be asked to comment on SD1 and to provide additional information related to environmental issues associated with the Project during NEPA Scoping. A site visit is planned for June 4, 2003 and two scoping meetings will be held on June 5, 2003 (see SD1).

I have included one original and eight copies of this letter and the enclosures to the Office of the Secretary.

If you have questions regarding this transmittal, please contact me at (303) 628-5987.

Sincerely,



Kevin Urie
Relicensing Project Coordinator

Enclosure (2)

CONSERVE

May 7, 2003

Williams Fork Re-Licensing

Denver Water has filed a notice of intent with the Federal Energy Regulatory Commission (FERC) for a renewal of its license to operate the Williams Fork Reservoir Hydroelectric Project. As part of the review for a license renewal Denver Water will be holding two public scoping meetings.

The two public scoping meetings will be held on June 5, 2003 at the Colorado State University Cooperative Extension of Grand County office, 210 11th Street, Kremmling, CO. Please attend the meeting which is more convenient.

Daytime Meeting

Date: June 5, 2003

Time: 1:00 p.m. – 4:00 p.m.

Evening Meeting

Date: June 5, 2003

Time: 6:00 p.m. – 9:00 p.m.

The scoping meetings will give neighbors, members of the environmental community, recreational users and government agencies the opportunity to identify issues related to the operation of Williams Fork Reservoir Hydroelectric Project. The goal of the meetings is to develop a common understanding of the proposed Project and to discuss current and potential resource needs and management objectives in the Williams Fork project boundary. In addition, participants will be asked to help identify environmental studies or other information that is needed to address environmental concerns associated with the project boundary.

If you are unable to attend one of the meetings, written comments may be submitted and will be included in the record sent to the FERC. Written comments should be sent to Joe Sloan, Denver Water, 1600 West 12th Avenue, Denver, CO 80204 or by e-mail to joseph.sloan@denverwater.org.

If you have any questions please contact Joe Sloan at 303-628-6320 or 1-800-610-6393 (ext 6320).

To learn more about FERC visit www.ferc.fed.us.

To learn more about Williams Fork Reservoir or Denver Water visit www.denverwater.org

Interested in the Future of Williams Fork Reservoir?

Denver Water has filed a notice of intent with the Federal Energy Regulatory Commission (FERC) for a renewal of its license to operate the Williams Fork Reservoir Hydroelectric Project (FERC No. 2204). The two public scoping meetings will be held on **June 5, 2003** at the Colorado State University Cooperative Extension of Grand County office, 210 11th Street, Kremmling, CO. Please attend the meeting which is more convenient.

Daytime Meeting

1:00 p.m. – 4:00 p.m.

Evening Meeting

6:00 p.m. – 9:00 p.m.

The scoping meetings will give neighbors, members of the environmental community, recreational users and government agencies the opportunity to identify issues related to the operation of Williams Fork Reservoir Hydroelectric Project.

For more information please contact Joe Sloan 303-628-6320 or 1-800-610-6393 ext 6320, or joseph.sloan@denverwater.org



May 9, 2003

Dear Interested Party,

RE: Scoping Document 1 Correction - Williams Fork Reservoir Relicensing Project (FERC No. 2204)

It has come to my attention that there was an error in the last paragraph on page 8 (section 3.1 Scoping Meetings) of the Scoping Document 1 for the Williams Fork Reservoir Relicensing Project (FERC No. 2204). The day of the week for the site visit is incorrect. The document listed the day as Tuesday, June 4, 2003. **The correct day is Wednesday, June 4, 2003.**

The corrected paragraph is:

On Wednesday , June 4, 2003, from 11:00 a.m. until 3:30 p.m., a site visit of the FERC Project area will be conducted. Those wishing to attend should meet in Kremmling, CO by 11:00 a.m. at the Colorado State University Cooperative Extension of Grand County office:

210 11th Street
Fairgrounds
Kremmling, CO
970-724-3436

As stated in the Scoping Document 1, if you plan on attending the site visit on Wednesday, June 4, 2003 please contact me by **May 26, 2003**. Lunch will be provided. If you reach my voice mail or send an e-mail please include a phone number in your response. My contact information is listed below.

I apologize for confusion that this may have caused. If the site visit is of interest to you I hope you will plan on attending on June 4, 2003.

Sincerely,

Joe Sloan
Community Relations, Denver Water
1600 West 12th Avenue
Denver, CO 80204
303-628-6320 or 1-800-610-6393 ext. 6320
fax 303-628-6349
joseph.sloan@denverwater.org

Williams Fork Reservoir Hydroelectric Project (FERC Project No. 2204)
 Denver Board of Water Commissioners
 Site Visit - 4 June 2003 - 11:00 am

Name and Organization (Please print)	Address	Telephone	E-Mail	Check below to be placed on Denver Water's mailing list to receive copies of Williams Fork Project documents.
DE GLOAN DENVER WATER	1400 N 12TH AVE	888-628-6320		
Andy Arnold American Whitewater	Box 626 Tabernash, CO 80478	970 726 5281	broarnold@kymthi.com	
Doug Wimer	Box 69 Hot Sulphur Spgs. Co 80451	970-725-3328	Dugmar@kymthi.com	
DUANE DAILEY	Box 2884 HES CO CO 80454	970-725-3240		
John R. Blair Colorado Division of Water Resources	P.O. Box 773450 Steamboat Springs, CO 80477	970-879-0272	J.blair@state.co.us	✓
Nick Jayjack FERC	888 First St, NE Washington, D.C. 20426	202-562-6073	nicholas.jayjack@ferc.gov	
William Gray	P.O. Box 239 Hot Sulphur Springs, Co 80451	970-725-3347 x 242	bgrey@co.grandcounties.com	on-list

Williams Fork Reservoir Hydroelectric Project (FERC Project No. 2204)
 Denver Board of Water Commissioners
 Site Visit - 4 June 2003 - 11:00 am

Name and Organization (Please print)	Address	Telephone	E-Mail	Check below to be placed on Denver Water's mailing list to receive copies of Williams Fork Project documents.
Kristin Schuring	POB 447 Winter Park, CO 80482	726 8104	KSchuring@yahoo.com	✓
Dianne Rodman	FERC Washington, DC	202 502-6077	dianne.rodman@ferc.gov	
Mike Wageck	Winter Park Western Sand Dist PO Box 7 Winter Park	970 726 5841	WUPUT@SAX WWW@RKYMTNHT.COM	
Greg Hempelman Don Kennedy	Denver Water Denver Water	303 628-6650 303 628-6528		
Anne Winans Michael Radin	Denver Water	303 628-6473 303-628-6526		
Hal Copeland Stingers Corp/PW KEVIN URIG	1510 W. Canal Ct. Littleton, CO 80120 1600 W. 12th Ave DENVER, CO 80236	303 799-3633	halcopeland@stingers.com KEVIN.URIG@DENVERWATER.CO.IG	
DENVER WATER		303-628-5987		

1 of 2

Williams Fork Reservoir Hydroelectric Project (FERC Project No. 2204)
 Denver Board of Water Commissioners
 Scoping Meeting - 5 June 2003 - 1:00 pm

Name and Organization (Please print)	Address	Telephone	E-Mail	Check below to be placed on Denver Water's mailing list to receive copies of Williams Fork Project documents.
Suzanne Dacheff	3921 CR 3 Parshall, CO 80468	970-725-3444		✓
Richard Daly	2961 S. Magnolia, Denver, CO 80204 Box 68 BLM	303-758-4445		✓
John Atkins	Kremmling, CO 80459	970 724 3025	john.atkins@co.blm.gov	✓
Mike Crossy	Box 339 Parshall, CO 80468	970-725-3627		
Rico LaRocca	PO Box 725 Winter Park, CO 80482	970 887 1861	/	✓
Duane DALEY	Box 264 Hess, CO 80451	725 347		
Lueline Zanderbink CURRAN	Box 264 Hot Sulphur Sp, CO 80451	725-3347	lcurran@co.9grand.co.us	✓

2072

[illegible]

[illegible]



Michael Whitney Crosby
District Wildlife Manager

COLORADO DIVISION OF WILDLIFE
DEPARTMENT OF NATURAL RESOURCES
BADGE # 852

Radio Call: 484
P.O. Box 339
Parshall, CO 80468

Office: (970) 725-6200
State Patrol: (970) 824-6501
Home: (970) 725-3627

MICHAEL J. LEWELLEN, P.E.
Water Resource Engineer

303-628-6535
Fax 303-628-6852
mike.lewellen@denverwater.org
www.denverwater.org

DENVER WATER

1600 West 12th Avenue
Denver, CO 80204-3412 . 303-628-6000

**GRAND
COUNTY**



Duane E. Dailey
Commissioner, Dist. III

P.O. Box 264 • Courthouse • Hot Sulphur Springs, CO 80451

Phone (970) 725-3347
Fax (970) 725-0565
Email:
gmdcty1@co.grand.co.us



U.S. DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT
KREMMLING FIELD OFFICE

JOHN ARKINS
OUTDOOR RECREATION SPECIALIST

Kremmling Field Office
2103 E. Park Ave.
P O Box 68
Kemmling, CO 80459-0068

Office: (970) 724-3025
Fax: (970) 724-9590
E-mail: john_arkins@co.blm.gov



OFFICE
OF THE
STATE
ENGINEER

Division of Water Resources

Department of Natural Resources
505 Anglers Drive, Suite 101
P.O. Box 773450
Steamboat Springs, Colorado 80477

John R. Blair, P.E.
Dam Safety Engineer
Division 6

Office: (970) 879-0272
FAX: (970) 879-1070
E-Mail: j.blair@state.co.us

Williams Fork Reservoir Hydroelectric Project
FERC Project No. 2204
Denver Board of Water Commissioners
Scoping Meeting
5 June 2003

I. Welcome/Introductions

II. Purpose of Meeting

- Reauthorization of power production at the Williams Fork Reservoir Hydroelectric Project.
- Regulated by the Federal Energy Regulatory Commission (FERC).
- NEPA scoping, solicitation of comments.

III. Relicensing/Exemption Options

FERC Relicensing	FERC Exemption
May add power capacity	Must add power capacity
Resource agency recommendations	Resource agency prescriptions
Periodic relicensing in the future	No future relicensing required
FERC maintains control over dam safety	
Same FERC licensing process	

IV. FERC Licensing Process

Alternative Licensing Process

- Denver Water has chosen the FERC "Alternative Licensing Process" (ALP).
- ALP is more of a cooperative effort among the Applicant, the FERC, and stakeholders, including the public, the resource agencies, and other governmental and non-governmental organizations.
- Under the ALP, the applicant prepares a Preliminary Draft Environmental Assessment (PDEA), which is the environmental document submitted as part of the license application and from which the FERC eventually develops its NEPA document.

NEPA Scoping

- Allows for input from interested parties including resource agencies and other stakeholders.
- Provides for identification of issues/impacts relevant to the project.

Environmental Assessment

- Decide what resource studies are needed based on scoping and agency consultation.
- Develop study plans in consultation with stakeholders.
- Prepare SD2
- Conduct resource studies.
- Describe existing conditions and assess environmental impacts of Denver Water's proposal and alternatives.
- Prepare PDEA to be included in FERC license application.

V. Alternatives

- Denver Water's Proposal
- No-Action Alternative
- Other Viable Alternatives

VI. Generalized Schedule

Timeline	Activity
Spring 2003	Scoping – Issues and studies Develop study plans
Summer 2003	Conduct resource studies
Fall 2003/Winter 2004	Analyze data from resource studies Assess environmental impacts
Spring/Summer 2004	Develop PDEA Available to interested parties for comment
Summer/Fall 2004	Develop responses to comments Incorporate comments and responses into PDEA Finalize PDEA
December 2004	Submit license application including the PDEA to the FERC

VII. Getting Involved

- Sign one of the Williams Fork Reservoir Hydroelectric Project Scoping Meeting Sign-up Sheets – please provide your name, address, phone number, e-mail address, and check the right-hand column if you would like to be placed on Denver Water's mailing list to receive copies of project documents.
- If you would like to speak today, fill out the slip at the bottom of page 3 of this handout, detach along the dotted line, and hand it to one of the Scoping Meeting moderators. You will be given an opportunity to provide oral testimony that will be recorded and included in the meeting transcript.
- Provide any comments, recommendations, or other information regarding the Williams Fork Project to Denver Water. (A Comment Sheet is provided as the last page of this handout for your convenience.) Submit your comments at the Scoping Meeting or send them to Denver Water no later than 4 August 2003. Send written submittals to both of the following parties.

Kevin Urie
Relicensing Project Coordinator
Denver Water
1600 W. 12th Avenue
Denver, CO 80204

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

All written filings must clearly identify the Project on the first page as follows:

Williams Fork Reservoir Hydroelectric Project (FERC No. 2204)

- Register at the FERC website (<http://FERC.gov/>) for an eSubscription to receive e-mail notifications of project filings. To access Williams Fork project documents, reference FERC Project No. 2204. The FERC website also has documents to help you understand the FERC process.

VIII. Information Needed

- Comments on the scope of issues presented in the SD1 scoping document.
- Recommendations as to other issues and resource areas that should be included in or eliminated from the environmental analysis, i.e., specific resource issues of concern.
- Existing information that would help in conducting accurate and thorough analyses of site-specific and cumulative effects of the project.
- Specific studies that should be performed. Why they are needed, methods, etc.

IX. Considerations

- This process is limited to the Williams Fork Reservoir Hydroelectric Project and does not include consideration of the larger Denver Water supply system.
- Emphasis is on resources within the FERC project boundary.
- The baseline for this process is the continued operation of the project under the terms of the existing license.

**Williams Fork Reservoir Hydroelectric Project (FERC Project No. 2204)
Denver Board of Water Commissioners
Scoping Meeting – 5 June 2003**

I would like to provide oral testimony at the Williams Fork Reservoir Hydroelectric Project Scoping Meeting.

Name _____
(please print)

☐ 1 pm Meeting ☐ 6 pm Meeting

Williams Fork Reservoir Hydroelectric Project (FERC Project No. 2204)
Denver Board of Water Commissioners
Scoping Meeting – 5 June 2003

COMMENT SHEET

Please provide your comments, recommendations, or other information regarding the Williams Fork Reservoir Hydroelectric Project (FERC Project No. 2204). Submit your Comment Sheet at the Scoping Meeting or send it and/or other written materials to Denver Water no later than 4 August 2003. Send written submittals to both of the following parties.

Kevin Urie
Relicensing Project Coordinator
Denver Water
1600 W. 12th Avenue
Denver, CO 80204

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

(Please continue on the other side or attach additional sheets.)

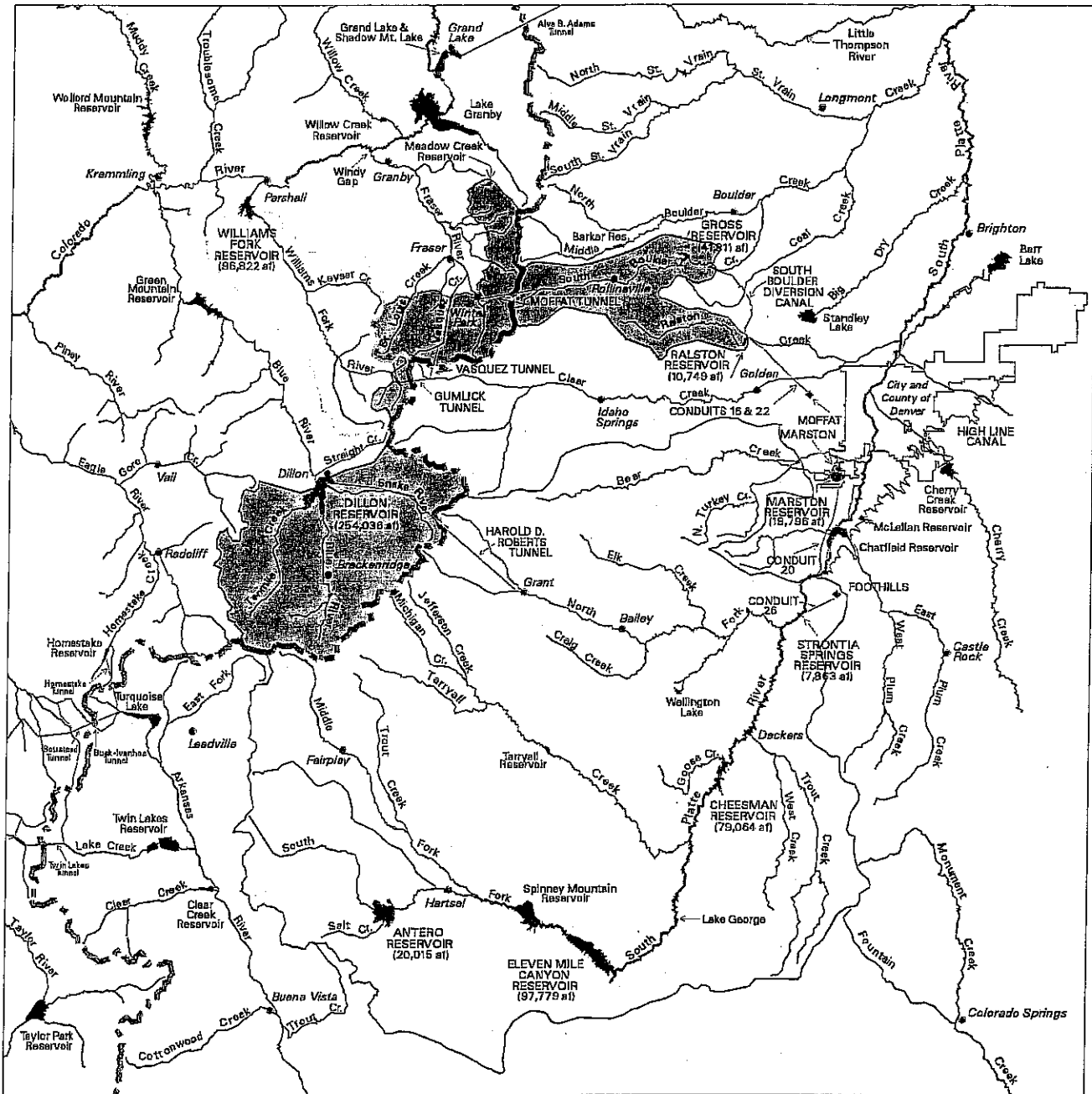
Name _____

Telephone _____

Address _____

E-Mail _____

City and County of Denver Board of Water Commissioners Water Collection System

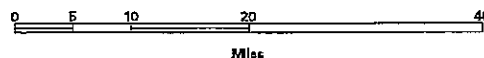


LEGEND

- | | |
|-----------------------------------|-------------------------|
| South Platte Collection System | Continental Divide |
| Roberts Tunnel Collection System | Major Stream or River |
| Moffat Collection System | Major Canal or Tunnel |
| Williams Fork Reservoir Watershed | Major Lake or Reservoir |
| Denver Water Treatment Plant | Town |



Scale 1:1,000,000



Initial Information Package (IIP)

FOR THE LICENSING OF THE
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC Project No. 2204



April 14, 2003



DENVER WATER

1600 West 12th Avenue
Denver, CO 80204

Scoping Document 1

FOR THE RELICENSING OF THE
WILLIAMS FORK RESERVOIR HYDROELECTRIC PROJECT
FERC Project No. 2204

April 11, 2003

Prepared By:



DENVER WATER

1600 W 12th Ave.
Denver CO 80204



United States Department of the Interior

BUREAU OF RECLAMATION

Great Plains Region
P.O. Box 36900
Billings, Montana 59107-6900

IN REPLY REFER TO:
GP-2400
PRJ-18.00

REC

JUN 09 2003

PLANNING
DENVER WATER

JUN 06 2003

Ms. Magalie S. Salas
Secretary
Federal Energy Regulatory Commission
888 First Street NE.
Washington, D.C. 20426

Subject: Comments on Project No. 2204-019 – Scoping Comments – Alternative Procedures for New License – Williams Fork Reservoir Project (ER03/449)

Dear Ms. Salas:

The Bureau of Reclamation has reviewed the Initial Consultation Package (IIP) and Scoping Document 1 (SD1) for the subject project. In 2001, Denver Water filed with the Federal Energy Regulatory Commission (FERC) its Notice of Intent to relicense the Williams Fork Reservoir Project.

Reclamation does not have any comments or concerns raised in the IIP and SD1. The IIP and SD1 do not indicate an impact on the operation of Reclamation's Green Mountain Dam and Reservoir, Colorado-Big Thompson Project, Colorado.

It is our understanding that based on the written comments received, a Scoping Document 2 (SD2) may be issued. Should a SD2 be issued, Reclamation requests the opportunity to review the document and to assess the impacts, if any, at our Green Mountain Dam and Reservoir.

If you have any questions, please contact Dick Dye, Facility Operation Services, at 406-247-7631.

Sincerely,

Maryanne C. Bach
Regional Director

Acting

cc: Mr. Kevin Urie
Relicensing Project Coordinator
Denver Water
1600 West 12th Avenue
Denver, CO 80204-3412

W-5005 (Arnold), W-6335
D-5100, D-5400 (Rawlings)

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JUN 09 2003

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DENVER WATER



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946

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JUN 12 2003

**PLANNING
DENVER WATER**

IN REPLY REFER TO:
ES/CO:FERC
MS 65412 GJ

June 10, 2003

Kevin Urie, Relicensing Project Coordinator
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204-3412

Dear Mr. Urie:

The Fish and Wildlife Service has reviewed the Initial Information Package and Scoping Document 1 for the relicensing of Williams Fork Reservoir Hydroelectric Project (FERC Project No. 2204), located on the Williams Fork River in the upper Colorado River basin. The documents state that the new power plant generator will be located within or near the existing power plant, and that there will be no change in the operational hydrology of the reservoir. We note that you propose to quantify depletions to the Colorado River caused by operation of the project and conduct biological studies to determine impacts to threatened and endangered species caused by the project. We have no requests for further studies related to fish and wildlife.

We recommend all power lines associated with the project comply with the following report: Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996. Edison Electric Institute/Raptor Research Foundation, Washington, D.C. Copies of this report may be obtained from the Raptor Research Foundation, Carpenter Nature Center, 12805 St. Croix Trail South, Hastings, Minnesota 55033.

If the Service can be of further assistance, please contact Patty Schrader Gelatt at the letterhead address or (970) 245-3920 or 243-6209, extension 26.

Sincerely,

Allan R. Pfister
Acting Colorado Field Supervisor



David Nickum
Executive Director
Colorado Trout Unlimited

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[JUL 16 2003]

July 15, 2003

**PLAN -
DENVER WATER**

Mr. Kevin Urie
Relicensing Project Coordinator
Denver Water
1600 W 12th Avenue
Denver, CO 80204

Re: Williams Fork Reservoir Hydroelectric Project (FERC No. 2204) - Scoping Document 1

Dear Mr. Urie:

Thank you for the opportunity to provide these scoping comments on the relicensing of the Williams Fork project. The primary concern of Trout Unlimited in this licensing is protection of habitat and water quality for the reservoir and river fisheries of the Williams Fork and the Colorado River. We have reviewed the Initial Information Package (IIP) and Scoping Document 1 (SD1) and offer the following comments.

General approach. In SD1 and the IIP, Denver Water frames much of its discussion on potential studies solely in terms of possible changes in conditions under the proposed project changes. Similarly, the IIP repeatedly states that mitigation measures are not proposed because there will be no change in operational hydrology. This approach is far too narrow. While it is important to consider the impacts of changes in facilities and operation, it is equally important at relicensing to reexamine current operations and mitigation measures and assess whether they have been successful in providing their intended outcomes. If they have not done so, the operating procedures and/or mitigation measures should be reexamined and modified under the new license. While this is recognized at some points (such as the reference to assessing the adequacy of existing minimum flows for fisheries in SD1, p. 18), the broader approach should be applied across the board in preparing the project Environmental Assessment.

Operations for hydropower. In several places (including SD1 p. 10) Denver Water states that power generation is "incidental to the municipal water supply operations" of the Williams Fork Reservoir. However, as Denver Water is applying for federal hydropower license for the project, all project operations must be fully defined to allow FERC to make the requisite public interest determination. Thus, project operations over a wide range of hydrologic conditions must be clearly defined, including those aspects of operations not associated with power production.

CTU is also concerned about how such incidental power production would be managed. For example, the documents do not specify whether Denver would at times fluctuate releases over a 24-hour period to maximize the value of power produced ("peaking"). Peaking power operations pose significant problems for fishery resources, and we ask that Denver commit to maintaining flows at stable levels within the context of their municipal supply operations rather than fluctuating flows for power purposes.

While the documents indicate that power production is incidental to water supply operations, it appears that there is a notable exception: the SD1 states that, if calculations indicate that a spill is expected during runoff, water may be released to generate additional power (p. 12-13). The timing and magnitude of these releases may have significant effects for fisheries and should be carefully assessed. Operating rules for these releases should be defined to ensure a sound balance between power generation and protection of environmental resources.

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization
Colorado Office: 1320 Pearl Street, Suite 320, Boulder, CO 80302
PHONE: (303) 440-2937 FAX: (303) 440-7933 EMAIL: dnickum@tu.org

Hydrologic data. In describing project operations – most significantly for TU's interests, average monthly outflows – the IIP uses averages from the period 1960 through 2001. Presumably, Denver Water's use of the Williams Fork Project has changed over that period as demands have grown and new projects have come on line. We ask that Denver Water reexamine its historic operations and determine whether the average data for 1960-2001 is truly reflective of current and expected future operations, or whether a different more recent period of record or even modeled flows using Denver Water's internal operating models should be used instead. The Environmental Assessment should use the information that will most accurately reflect expected future operations at Williams Fork Reservoir.

Fisheries resources. SD1 identifies as an issue whether existing minimum stream flows are adequate for fisheries "within the FERC Project area" (p. 18). In reality, the Project's impacts on stream flows and water quality do not end at the FERC Project boundary immediately downstream of the reservoir but continue throughout the Williams Fork River to its confluence with the Colorado River – and in the context of cumulative impact analysis, on to the mainstem Colorado River. We ask that Denver Water assess the adequacy of flows and water quality for the entire reach of the Williams Fork from the reservoir outlet to its confluence with the Colorado and in the Colorado River for a reasonable distance downstream. Similarly, Denver Water should not limit its exploration of opportunities for habitat enhancement to the FERC Project Area as proposed in SD1 (p. 18).

In the IIP, Denver Water indicates that it plans to rely on fish habitat studies conducted by Chadwick and Associates in 1986, apparently based on the assumption that the Williams Fork has a stable enough river channel that these 17-year-old data will still be reflective of current conditions. That assumption may be correct, but it should be tested through some on-site data collection and comparison to the conditions previously observed by Chadwick and Associates. If this review indicates that conditions have changed significantly since 1986, new data collection and analysis will be required.

The IIP includes as Appendix 2 some information from the Chadwick and Associates report, showing the amount of habitat (weighted usable area) available for different life stages month-by-month in average flow years. It is imperative that Denver Water also provide curves showing the amount of habitat available for different life stages at different levels of flow in the Williams Fork River, so that Denver Water, FERC, and the public can determine what the significance of different flow regimes would be for fish habitat. If such curves are available from the 1986 report, we ask that they be provided to us and be added to the Project record. If they are not available, new data analysis must be conducted to generate them. So that we can better assess the adequacy of the Chadwick studies, we also ask that Denver Water provide information on what habitat suitability-of-use curves are used for the different species and life stages that were evaluated.

SD1 notes the need to study ramping flows for the downstream fishery (p. 14), but no specific studies are proposed under fisheries resources (p. 18 – describes only study of current minimum flow conditions). Studies are needed – using either cross-section data from the Chadwick studies if it is still reflective of current conditions, or using new cross-sections – to evaluate the effects of fluctuating flows and define ramping rates that minimize the risks to fish and to angler safety downstream of the reservoir.

Water quality. We request that Denver Water collect water temperature data and develop a water temperature model for lower portions of the Williams Fork River and the Colorado River downstream from the Williams Fork confluence. Such a model would facilitate an analysis of alternative operations at the project on downstream water temperatures. The Colorado River through Middle Park is a world class trout fishery and the operation of the Williams Fork project should be carefully managed to protect that fishery. This includes discharging water at rates and temperatures that would benefit trout in the Colorado River.

The IIP also includes data on water temperatures in the reservoir, outlining the temperature profiles from 2000 and 2001. It is important to examine where the powerhouse intake will be in that temperature profile under different periods of operation. Specifically, we would like to determine whether there is a potential problem in periods of low reservoir levels, when releases through the powerhouse might draw water from high enough in the thermocline to create water temperature concerns for downstream fisheries. If there is potential for adverse impact to the fisheries, we ask that Denver Water assess the extent to which such

impacts could be offset by shifting at least a portion of the releases to the river outlet works, which draw from a deeper point in the reservoir. This information would also help in evaluating ways in which the Williams Fork project could be managed to help improve temperature conditions in the Colorado River.

Finally, the Colorado River in the vicinity of Williams Fork Reservoir is a whirling disease hot spot. It is important for the long term health of the Colorado River to minimize the potential for the Williams Fork project to contribute to the whirling disease problem. For this reason, we ask that Denver Water coordinate with the Colorado Division of Wildlife to assess the Williams Fork Reservoir and the river downstream for whirling disease, to determine whether reservoir operations are exacerbating the effects of whirling disease in the Colorado River and if so to identify measures that can be used to address those effects. Because our understanding of whirling disease is growing rapidly, it is possible that new measures of disease prevention will be discovered during the life of a new license. For this reason, we suggest that any license issued for the project include language that would allow such new measures to be incorporated into the license throughout the license term (i.e., adaptive management).

Cumulative impacts. Contrary to the statement in SD1 (p.16), it is clear that there are cumulative impacts on the Colorado River and its fishery from operations at Williams Fork Reservoir in combination with current and pending projects including current use and proposed expanded use with Denver Water's Moffat Tunnel collection system and Dillon Reservoir, Northern Colorado Water Conservancy District's current use and proposed expansion of the Windy Gap project, the federal Colorado-Big Thompson project, and other smaller projects and uses within the watershed. These impacts are both local (such as flow depletion and elevated water temperatures in the Colorado River in Grand County) and far-reaching (such as flow depletions in the Colorado River below Rifle). One notable area of cumulative impact is on the endangered fishes of the Colorado River (Colorado pikeminnow, humpback chub, razorback sucker, bonytail chub). While these species are mentioned in the IIP, there is no description of current or proposed mitigation measures through the endangered fishes recovery program (although SD1 does note the need to quantify depletions to the Colorado River from the project on p.19). In the project Environmental Assessment, cumulative impacts in Grand County and beyond must be assessed and disclosed and mitigation measures defined.

Thank you for this opportunity to comment.

Sincerely,

A handwritten signature in dark ink, appearing to read "David Nickum", with a long horizontal flourish extending to the right.

David Nickum

cc: Magalie R. Salas, Secretary, FERC

STATE OF COLORADO
Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

Russell George, Director
6060 Broadway
Denver, Colorado 80216
Telephone: (303) 297-1192



*For Wildlife-
For People*

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JUL 21 2003

**PLANNING
DENVER WATER**

July 17, 2003

Kevin Urie
Relicensing Project Coordinator
Denver Water
1600 W.12th Avenue
Denver, CO. 80204

F.E.R.C. PROJECT # 2204 Williams Fork

Thank you for the opportunity to comment on the Relicensing of the project at Williams Fork Reservoir. The project area is invaluable to the Division of Wildlife in several arenas. From a terrestrial standpoint, the dam area and below are important wintering habitats to the Bald Eagle and River Otter. The dam itself is built on what is called Cedar Ridge, an area that is critical winter range for Mule Deer and Elk. Northern Sage Grouse occur in this project area, which is within 2 miles of three active leks, encompassing valuable brood habitats. Pronghorn utilize the shores of the reservoir below high water mark and during late summer and fall. Several species of waterfowl utilize the reservoir at various times during their migration and life cycles.

Allowing public access on the reservoir property helps the Division of Wildlife achieve its harvest goals and enhances public opportunity for hunting and fishing related recreation.

The aquatic resources are involved and complex. In the reservoir we are managing for a variety of cold water species with an emphasis on Kokanee Salmon spawning operations. We have worked hard with D.W.B. in avoiding potential fisheries problems with very low water. For maintaining the quality trout stream fishery below the reservoir in the river, the Division of Wildlife recommends increasing the minimum flow below the reservoir from 15c.f.s. to 25c.f.s. Current sustained low flows make it very difficult to manage a quality trout fishery.

We would like to see D.W.B. establish firm ramping procedures for reservoir releases. Ramping downward from high flow is important from a fisheries standpoint. Ramping up is more of a public safety issue.

Sincerely, Mike W. Crosby
District Wildlife Manager
Colorado Division of Wildlife
Box 339, Parshall, Co. 80468 970-725-3627

MIDDLE PARK WATER CONSERVANCY DISTRICT

**POST OFFICE BOX 500
GRANBY, COLORADO 80446**

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[JUL 23 2003]

July 23, 2003

**PLANNING
DENVER WATER**

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Mr. Kevin Urie
Project Coordinator-Williams Fork Project Relicensing
Denver Water
1600 West 12th Avenue
Denver, CO 80204

**RE: Comments on Scoping Document 1 for the Williams Fork Reservoir Project
Hydroelectric Project, FERC Project No. 2204**

Dear Secretary:

The following comments are submitted in response to the Scoping Document on the Williams Fork relicensing by the Middle Park Water Conservancy District. The Middle Park Water Conservancy District is a duly incorporated quasi governmental agency of the State of Colorado, which encompasses Grand and Summit Counties, Colorado.

Section 4.1.2, WILLIAMS FORK RESERVOIR EXISTING OPERATIONS correctly identifies how Williams Fork operates by primarily replacing diversions through the Moffat Tunnel Collection System and Roberts Tunnel Collection System. Water, as noted, is released from the Williams Fork to replace out-of-priority diversions at Dillon Reservoir and from the Fraser Collection System.

Having identified how the reservoir operates, it then attempts to restrict the area under study. While the scoping document identifies fish releases from Williams Fork Reservoir being 15 cfs or inflow, it doesn't do anything to indicate the impacts of Williams Fork replacement on those portions of the Blue River that are impacted by those releases,

nor the Fraser River. Both the Fraser River and the Blue River were severely impacted in 2002 and the Denver Water Board cut back instream flow bypasses on the Fraser River pursuant to their U.S. Forest Service Special Use Permit that impacted the fishery.

Accordingly, it seems like the Scope is unduly limited and should be increased to allow for the study of the project's impacts on those areas that are impacted by the release of water from the Williams Fork specifically to include:

1. Any impacts on the Blue River including Green Mountain Reservoir caused by substitution of Williams Fork water for water that would either be bypassed in the Blue River or exchanged at Green Mountain Reservoir.
2. Impacts on water quality in the Fraser River caused by lower flows in the Fraser River by Denver bypassing water in the Williams Fork that otherwise would be released to the Fraser under call from senior water rights. The entities in the Fraser Valley have, in the past, spent millions of dollars to improve treatment, which is impacted by low flows.
3. The impact on the fishery in the Fraser River caused by Denver cutting back on their bypass flows on all tributaries to the Fraser River including the Fraser River, Ranch Creek, Vasquez, St. Louis, which unlike the Williams Fork bypass flows, are not mandatory, but as was found in 2002, discretionary.

Without analyzing the overall impacts of the Williams Fork diversions on these other areas, the study is completely missing the overall impacts and the scope is totally inaccurate.

Very truly yours,

A handwritten signature in black ink that reads "Duane Scholl". The signature is written in a cursive, flowing style with a large, stylized "S" for the last name.

Duane Scholl, President
Middle Park Water Conservancy District

COLORADO RIVER WATER CONSERVATION DISTRICT

Protecting Western Colorado Water Since 1937

August 4, 2003

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AUG 06 2003

The Honorable Magalie R. Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

PLANNING
DENVER WATER

Kevin Urie
Denver Water Board
1600 West 12th Avenue
Denver, CO 80204-3412

Subject: *River District Comments on the IIP and Scoping Document I for the Relicensing of the Williams Fork Reservoir Hydroelectric Project, FERC Project Number 2204*

Dear Secretary Salas:

This letter provides the Colorado River Water Conservation District's (River District) comments regarding the Initial Information Package and Scoping Document I for relicensing of the Williams Fork Reservoir Hydroelectric Project, FERC Project Number 2204. The River District was created by the Colorado State General Assembly in 1937 and includes all or part of 15 West Slope counties of the Colorado, Yampa, White, Gunnison, Uncompahgre and Dolores River drainage basins. Our primary goal is the protection of existing water uses and preservation of future economic opportunities for the residents of the Colorado River Basin in western Colorado.

The River District generally supports the Denver Water Board in its effort to either relicense or obtain an exemption for the Williams Fork Hydroelectric Project. As the project is currently operated, power production is incidental to the water supply function of Williams Fork Reservoir. The hydropower project allows an additional beneficial use of the water resources at Williams Fork Reservoir.

As Denver's scoping documents explain, the water supplies in Williams Fork Reservoir are used primarily for "exchange." As a result, the water supply operations of the reservoir affect rivers that are outside the Williams Fork River Basin. Rivers that are impacted by Williams Fork exchanges are the Blue River and the Upper Fraser River. Flows in the Upper Fraser River Basin are,

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AUG 06 2003

The Honorable Magalie R. Salas
Kevin Urie, Denver Water Board
August 4, 2003
Page 2

PLANNING
DENVER WATER

on many occasions, below minimum flow levels set by the Colorado Water Conservation Board and the U.S. Forest Service. Local governments and water supply districts are currently working with Denver Water to address conditions on the Upper Fraser River.

The Williams Fork Project has just started the formal relicensing process. We understand that there will be many opportunities for Denver Water to describe the specifics of the project's operations and potential impacts. As issues come forth, we urge Denver to continue to work closely with local interests and meaningfully address their concerns, including the issues related to reservoir exchanges.

As a specific comment, the River District requests that Denver provide stakeholders with a summary of the current FERC license for the Williams Fork Project. The summary should include the existing terms, conditions and prescriptions of the license.

We appreciate the opportunity to comment on the project and look forward to actively participating in the process.

Sincerely,



R. Eric Kuhn
General Manager



BOARD OF COMMISSIONERS

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AUG 05 2003

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DENVER WATER

JAMES L. NEWBERRY

District I, Winter Park 80482

ROBERT F. "BOB" ANDERSON

District II, Granby 80446

DUANE E. DAILEY

District III, Hot Sulphur Springs 80451

PHONE: 970/725-3347

Fax: 970/725-0565

LURLINE UNDERBRINK CURRAN

County Manager

ANTHONY DICOLA

County Attorney

August 4, 2003

Kevin Urie, Project Coordinator/Williams Fork
Denver Water
1600 W. 12th Ave.
Denver, CO 80204-3412

RE: Comments on Scoping Document for the Williams Fork Reservoir Project Hydroelectric Project, FERC
Project No. 2204

Dear Mr. Urie:

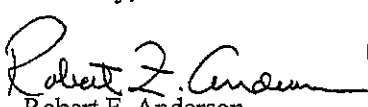
The Williams Fork Project is located entirely within Grand County, Colorado. The Grand County Board of County Commissioners has reviewed and discussed the information contained in the Scoping Document on the Williams Fork Project relicensing and has the following comments.

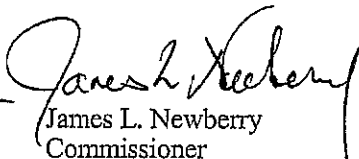
Grand County submits that the necessary baseline conditions evaluated for this project must include the entire affected stream system. The primary purpose of Williams Fork Reservoir is to provide replacement water for diversions from the Williams Fork Collection System, Moffat Tunnel Collection System, and the Roberts Tunnel Collection System (see Section 4.1.2). Further, the power generating facility at Williams Fork is linked to power replacement to the Bureau of Reclamation's Green Mountain Reservoir (see Section 2.0). Therefore, the geographic scope of influence of the project is considerably larger than that which is shown in the scoping document. As the community that has and will live with the impacts of the operation of Denver Water's collection system, Grand County insists that the scope of the assessment is expanded such that the full range of impacts associated with the operation of Williams Fork can be evaluated.

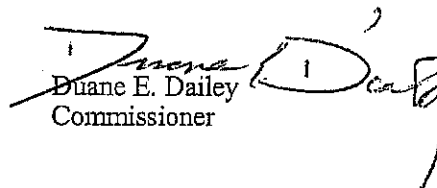
Further, the scope of this assessment cannot ignore the pending application for the expansion of Denver Water's Moffat Tunnel Collection System. This expansion will likely affect the operation of William's Fork and so impacts to the affected environment will be misstated without consideration of the ultimate operation of Williams Fork, especially in light of the fact that the term of the FERC license could be as much as 50 years.

The analysis of the impacts of Williams Fork operations must assess the entire scope and range of actual impacts associated with the project. Thank you for consideration of these comments.

Sincerely,


Robert F. Anderson
Chairman


James L. Newberry
Commissioner


Duane E. Dailey
Commissioner

RFA:ke

cc: Magalie R. Salas
Colorado River Water Conservation District
Middle Park Water Conservancy District
Summit County BOCC
Craig Magwire
Chuck Oliver



STEIGERS
CORPORATION

ORIGINAL

ENVIRONMENTAL SERVICES & PROJECT DEVELOPMENT

Magalie Roman Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

August 12, 2003
JON 189 WP 3, 2b(2)
Letter No. 189-007

FILED
AUG 13 2003
FEDERAL ENERGY COMMISSION
JON 189 WP 3, 2b(2)
Letter No. 189-007

Re: Scoping Meeting Transcripts
Project No. 2204 - Williams Fork Hydroelectric Project
City and County of Denver, Colorado

Dear Secretary Salas,

Denver Water held two scoping meetings for the Williams Fork Hydroelectric Project on June 5, 2003. The scoping meetings were duly noticed, attended by FERC staff, and documented by a court reporter. On behalf of Denver Water, enclosed for filing in the Commission's record are transcripts of each scoping meeting.

Should you or FERC staff have any questions, please do not hesitate to call me at (303) 799-3633.

Sincerely,

Hal Copeland
Project Manager

Enclosures (2)

cc: K. Urie, Denver Water 1/0

DENVER WATER

1600 West 24th Avenue, Denver, Colorado 80204-3441
Phone: 303-628-6000 Fax: 303-628-6198



January 22, 2004

Patty Schrader Gelatt
U.S. Fish and Wildlife Service, Ecological Services
764 Horizons Dr., Building B
Grand Junction, CO 81506

Subject: Endangered Species Act (ESA) – Request for Information and Coordination on the Federal Energy Regulatory Commission (FERC) Exemption/Relicensing of the Williams Fork Reservoir Project – FERC Project No. 2204

Dear Ms. Gelatt,

Denver Water and its environmental consultant, Steigers Corporation, are moving forward under the FERC's Alternate Licensing Process (ALP) to seek either an exemption or a new license for the Williams Fork Reservoir Hydroelectric Project (Project). The Project is located in Township 1N, Range 79W, Sections 23-27 and 34-36, Grand County, Colorado. Under the ALP, Denver Water and Steigers Corporation will be developing a preliminary draft Environmental Assessment (PDEA) and Biological Assessment (BA) for the Project. An Initial Information Package (IIP) and Scoping Document 1 (SD1) were provided to your office in April 2003. Your office provided comments on the Project by letter dated June 10, 2003 (and in a follow-up telephone conversation with Steigers Corporation on June 23, 2003).

In 2001, Denver Water filed with the FERC its Notice of Intent (NOI) to relicense the Project, FERC Project No. 2204. This NOI was filed with a dual purpose, first to seek a small hydroelectric project exemption and secondarily a new project license.

Denver Water is officially requesting a list of federally listed and proposed species that the U. S. Fish and Wildlife Service believes the BA needs to address in order to complete section 7 consultation for the Project.

Thank you for your cooperation and assistance. If you have any questions, please contact me at 303-628-5987 or kevin.urie@denverwater.org.

Sincerely,

Kevin Urie
Project Manager

cc: Hal Copeland, Steigers Corporation

CONSERVE



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/CO:FERC/WilliamsFork
MS 65412 GJ

February 24, 2004

Kevin Urie, Project Manager
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204-3412

02-26-04 P03:21 IN

02-26-0

Dear Mr. Urie:

This responds to your January 22 letter requesting a list of federally threatened and endangered species for the Williams Fork Reservoir Hydroelectric Project. To comply with section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies or their designees are required to obtain from the Service information concerning any species or critical habitat, listed or proposed to be listed, which occur within the influence of the proposed action. Therefore, we are furnishing you the following list of species which may be present in the concerned area.

FEDERALLY LISTED SPECIES

Bald eagle	<i>Haliaeetus leucocephalus</i>
Colorado pikeminnow	<i>Ptychocheilus lucius</i>
Razorback sucker	<i>Xyrauchen texanus</i>
Humpback chub	<i>Gila cypha</i>
Bonytail	<i>Gila elegans</i>
<i>Astragalus osterhoutii</i>	Osterhout milk-vetch

The lead Federal agency for Endangered Species Act section 7 consultation should review their proposed Federal action and determine if the action would affect any listed species. If the determination is "may affect" for listed species, the Federal agency must request in writing formal consultation from our office. At this time, your agency should provide this office a biological assessment and/or any other relevant information used in making the impact determinations.

The Fish and Wildlife Service believes that major causes for the decline of the Colorado pikeminnow, humpback chub, razorback sucker and bonytail include the effect of impoundments and water depletion from the Colorado River and its tributaries. The Service believes that any action made possible by the project that causes a depletion of water from the Upper Colorado River Basin should prompt a "may affect" finding by the Federal Energy Regulatory Commission for the listed fishes and necessitate consultation under the Endangered Species Act.

We would like to bring to your attention species which are candidates for official listing as threatened or endangered species [67 FR, Vol. 67, No. 114 (June 13, 2002)]. While these species presently have no legal protection under the Endangered Species Act, it is within the spirit of the Act to consider project impacts to potentially sensitive candidate species. Additionally, we wish to make you aware of the presence of Federal candidates should any be proposed or listed prior to the time that all Federal actions related to the project are completed.

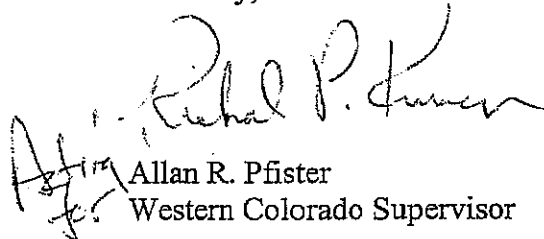
FEDERAL CANDIDATE SPECIES

Boreal toad

Bufo boreas boreas

There are currently no species proposed for listing in Colorado. If the Service can be of further assistance, please contact Patty Schrader Gelatt at the letterhead address or (970) 245-3920 or 243-6209, extension 26.

Sincerely,


Allan R. Pfister
Western Colorado Supervisor

RECOVERY AGREEMENT

This RECOVERY AGREEMENT is entered into this 14th day of February, 2000, by and between the United States Fish and Wildlife Service (USFWS) and the City and County of Denver, acting by and through its Board of Water Commissioners (Denver).

WHEREAS, in 1988 the Secretary of Interior, the Governors of Wyoming, Colorado and Utah, and the Administrator of the Western Area Power Administration signed a Cooperative Agreement to implement the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program); and

WHEREAS, the Recovery Program is intended to recover the endangered fish while providing for water development in the Upper Basin to proceed in compliance with state law, interstate compacts and the Endangered Species Act; and

WHEREAS, the Colorado Water Congress has passed a resolution supporting the Recovery Program; and

WHEREAS, on December 20, 1999, USFWS issued a programmatic biological opinion (1999 Opinion) concluding that implementation of specified elements of the Recovery Action Plan (Recovery Elements), along with existing and a specified amount of new depletions, are not likely to jeopardize the continued existence of the endangered fish or adversely modify their critical habitat in the Colorado River subbasin within Colorado, exclusive of the Gunnison River subbasin; and

WHEREAS, the 1999 Opinion in the section entitled "Reinitiation Notice" divided depletions into Category 1 or Category 2 for reinitiation purposes; and

WHEREAS, Denver is the owner and operator of water diversion projects and facilities decreed for diversion from the Fraser, Williams Fork, Blue, Eagle and Colorado Rivers and their tributaries (Water Facilities). The operation of Denver's Water Facilities includes using water stored in Williams Fork and Wolford Mountain Reservoirs for substitution and in Williams Fork Reservoir for exchange purposes. Denver's Water Facilities cause or will cause depletions to the Colorado River subbasin within Colorado, exclusive of the Gunnison River subbasin; and

WHEREAS, Denver desires certainty that its depletions can occur consistent with Section 7 and Section 9 of the Endangered Species Act (ESA); and

WHEREAS, USFWS desires a commitment from Denver to the Recovery Program so that the Program can actually be implemented to recover the endangered fish and to carry out the Recovery Elements.

NOW THEREFORE, Denver and USFWS agree as follows:

1. USFWS agrees that implementation of the Recovery Elements specified in the 1999 Opinion will avoid the likelihood of jeopardy and adverse modification under Section 7 of the ESA, for depletion impacts caused by Denver's Water Facilities. Any consultations under Section 7 regarding Denver's Water Facilities' depletions are to be governed by the provisions of the 1999 Opinion. USFWS agrees that, except as provided in the 1999 Opinion, no other measure or action shall be required or imposed on Denver's Water Facilities to comply with Section 7 or Section 9 of the ESA with regard to its Water Facilities' depletion impacts or other impacts covered by the 1999 Opinion. Denver is entitled to rely on this Agreement in making the commitment described in paragraph 2.

2. Denver agrees not to take any action which would probably prevent the implementation of the Recovery Elements. To the extent implementing the Recovery Elements requires active cooperation by Denver, Denver agrees to take reasonable actions required to implement those Recovery Elements. Denver will not be required to take any action that would violate its decrees or the statutory authorization for its Water Facilities, or any applicable limits on Denver's legal authority. Denver will not be precluded from undertaking good faith negotiations over terms and conditions applicable to implementation of the Recovery Elements.

3. If USFWS believes that Denver has violated paragraph 2 of this Recovery Agreement, USFWS shall notify both Denver and the Management Committee of the Recovery Program. Denver and the Management Committee shall have a reasonable opportunity to comment to USFWS regarding the existence of a violation and to recommend remedies, if appropriate. USFWS will consider the comments of Denver and the comments and recommendations of the Management Committee, but retains the authority to determine the existence of a violation. If USFWS reasonably determines that a violation has occurred and will not be remedied by Denver despite an opportunity to do so, the USFWS may request reinitiation of consultation on Water Facilities without reinitiating other consultations as would otherwise be required by the "Reinitiation Notice" section of the 1999 Opinion. In that event the Water Facilities' depletions would be excluded from the depletions covered by 1999 Opinion and the protection provided by the Incidental Take Statement.

4. Nothing in this Recovery Agreement shall be deemed to affect the authorized purposes of Denver's Water Facilities or USFWS' statutory authority.

5. The signing of this Recovery Agreement does not constitute any admission by Denver regarding the application of the ESA to the depletions of Denver's Water Facilities. The signing of this Recovery Agreement does not constitute any agreement by either party as to whether the flow recommendations for the 15-Mile Reach described in the 1999 Opinion are biologically or hydrologically necessary to recover the endangered fish.

6. This Recovery Agreement shall be in effect until one of the following occurs:

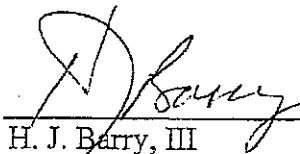
- a. USFWS removes the listed species in the Upper Colorado River Basin from the endangered or threatened species list and determines that the Recovery Elements are no longer needed to prevent the species from being relisted under the ESA; or

b. USFWS determines that the Recovery Elements are no longer needed to recover or offset the likelihood of jeopardy to the listed species in the Upper Colorado River Basin; or

c. USFWS declares that the endangered fish in the Upper Colorado River Basin are extinct; or

d. Federal legislation is passed or federal regulatory action is taken that negates the need for [or eliminates] the Recovery Program.

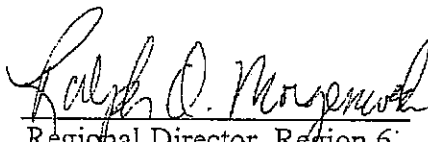
7. Denver may withdraw from this Recovery Agreement upon written notice to USFWS. If Denver withdraws, USFWS may request reinitiation of consultation on Water Facilities without reinitiating other consultations as would otherwise be required by the "Reinitiation Notice" section of the 1999 Opinion.



H. J. Barry, III
Manager, Denver Water

2/14/2000

Date



Ralph O. Mergens
Regional Director, Region 6
U.S. Fish and Wildlife Service

2/14/00

Date

From: Urie, Kevin

Sent: Tuesday, March 23, 2004 3:52 PM

To: Andrew Ross (andrew.ross@state.co.us)

Subject: Section 401 - Water Quality Certification for Williams Fork Reservoir Hydroelectric Project (FERC No. 2204)

Andrew,

As we have discussed previously Denver Water is seeking a Section 401 certification for our Williams Fork Reservoir Hydroelectric Project (FERC No. 2204).

Attached are two Excel files that contain water quality data for the Williams Fork River below Williams Fork Reservoir. The first file contains USGS data from September 1964 to September 2002. The second file includes water quality data collected by Denver Water's State certified laboratory from May 2000 to February 2004. As you mentioned in our most recent conversation, the WQCD will publish a 30-day public notice in their April publication and would anticipate certifying the project if there are no significant objections resulting from the public notification process.

Please let me know if you have any questions or concerns.

Regards,

Kevin Urie

Environmental Planner

303-628-5987

<<USGS Water Quality Data below WF Reservoir 1964-2002.xls>> <<Denver Water Water Quality Data below WF Reservoir May 2002- Feb 2004.xls>>

SAMPLE DATE/TIME	Temperature ° C water	Specific Conductance uS/cm @ 25 ° C water unfiltered	Dissolved Oxygen mg/L	pH SU water unfiltered, field
9/11/2002 12:15	15	133	6.1	8.1
8/28/2002 12:10	15	132		
8/8/2002 13:15	10	121	6.6	7.5
7/22/2002 12:50	9.5	122		
5/10/2002 12:00	6	121		
4/11/2002 12:00	6.5	132		
2/28/2002 11:00	3	128		
11/15/2001 14:40	7.5	117		
10/17/2001 11:00	10	111		
9/21/2001 11:50	9.5	106		
8/15/2001 13:30	8.7	106		
7/12/2001 11:30	8	110		
5/22/2001 13:00	6.4	114		
5/3/2001 10:45	5	116		
1/24/2001 13:35	3.3	131		
11/22/2000 11:35	5	110		
10/26/2000 12:45	10.5	109		
9/26/2000 12:20	11	92		
8/16/2000 12:00	9	95		
7/12/2000 12:40	8.5	97		
6/7/2000 13:00	7	104		
5/24/2000 12:00	5	127		
4/5/2000 12:10	4	132		
3/2/2000 12:30	3	113		
11/24/1999 11:45	6	105		
10/21/1999 13:45	9	102		
9/16/1999 12:35	9.5	101		
8/19/1999 11:30	9	103		
7/22/1999 11:15	8.5	104		
6/24/1999 12:15	7	108		
5/28/1999 10:50	6.5	109		
4/30/1999 11:15	4.5	109		
2/25/1999 14:00	3.5	113		
1/21/1999 11:30	3.5	109		
11/13/1998 13:00	7	104		
10/22/1998 11:50	9.5	96		
9/17/1998 13:00	9	96		
8/20/1998 13:50	8.5	96		
7/23/1998 11:45	8	96		
6/17/1998 12:45	6.5	96		
5/13/1998 11:15	5.5	95		
2/25/1998 14:00	3.5	152		
1/16/1998 12:45	4.5	87		
11/6/1997 12:30	8	85		
10/8/1997 10:15	9.5	76		
9/3/1997 10:07	9.5	75		

8/5/1997 9:18	9	76
6/10/1997 10:15	9	84
6/3/1997 9:50	5.5	96
5/6/1997 9:13	4.5	98
4/8/1997 13:07	2.5	106
3/13/1997 9:22	2.5	102
11/5/1996 9:35	7	90
10/9/1996 10:47	9	72
9/10/1996 9:30	9	71
8/6/1996 10:15	9	71
7/9/1996 9:30	10.5	73
6/28/1996 8:30	12	72
6/19/1996 9:57	11.5	75
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5/14/1996 12:20	5.5	91
4/23/1996 13:30	3.5	101
3/20/1996 10:35	3	93
1/18/1996 12:10	3.5	87
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10/3/1995 10:55	10	74
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8/9/1995 10:20	9.5	77
7/13/1995 10:50	13.5	80
7/11/1995 12:45	13	79
6/20/1995 13:25	8	99
5/3/1995 10:45	4	113
4/4/1995 13:15	4	127
1/25/1995 13:30	3.5	131
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10/7/1994 12:30	11	81
10/6/1994 12:40	11	101
9/14/1994 13:40	9	94
8/16/1994 9:39	8	95
7/21/1994 9:18	7.5	96
6/14/1994 10:35	6.5	98
5/5/1994 15:45	6	97
3/24/1994 11:05	2.5	106
2/10/1994 10:10	2.5	101
12/29/1993 12:25	2.5	94
11/23/1993 12:05	5	92
9/16/1993 12:10	10.5	79
8/12/1993 11:50	10	79
7/14/1993 14:55	12	80
6/30/1993 14:25	8.5	89
6/22/1993 14:10	7	99
5/20/1993 9:40	5	114
4/21/1993 14:40	3.5	123
3/22/1993 13:00	3.5	126
1/27/1993 14:50	2.5	135

12/8/1992 15:05	2.5	116
11/19/1992 13:00	6	116
10/8/1992 11:30	11.5	107
9/15/1992 11:20	10	109
8/13/1992 13:30	8.5	114
7/9/1992 13:45	7.5	117
6/5/1992 10:00	6	122
5/5/1992 11:40	5	123
4/24/1992 11:30	4	124
4/14/1992 14:25	3.5	130
3/23/1992 15:40	3.5	133
2/26/1992 12:30	2	128
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12/4/1991 13:27	5	127
11/20/1991 14:20	6	128
10/30/1991 16:45	9	124
9/27/1991 11:00	9	119
7/17/1991 14:35	8	121
6/7/1991 8:40	6.3	123
6/4/1991 17:40	6.5	123
5/24/1991 12:45	5	129
4/25/1991 12:20	4.5	152
3/28/1991 15:10	3.5	152
12/28/1990 15:10	3.5	126
12/5/1990 12:00	4	116
9/26/1990 16:00	10	122
9/13/1990 9:45	9.6	123
8/9/1990 16:40	8.5	127
7/13/1990 14:30	8	131
6/13/1990 14:15	8	132
5/21/1990 17:25	6.5	128
4/5/1990 14:30	4	153
2/21/1990 13:10	4	146
11/21/1989 13:55	5.5	125
10/2/1989 16:00	10	123
7/11/1989 14:30	8	126
6/1/1989 13:45	8	129
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3/30/1989 12:50	4.5	152
2/22/1989 13:40	2	150
11/28/1988 13:50	5.5	133
9/20/1988 11:45	9.5	116
8/5/1988 11:10	8	118
5/26/1988 17:05	5	110
4/28/1988 16:30	4	128
3/31/1988 14:30	2.5	120
2/24/1988 15:45	3.5	108
1/27/1988 16:00	3	114
12/17/1987 15:35	5	105

11/20/1987 13:40	7	128		
10/14/1987 14:40	8	107	9.7	8.3
10/9/1987 13:20	8	99		
9/15/1987 14:40	8	96	6.1	7.9
8/18/1987 15:25	8	120	8.8	7.5
7/20/1987 13:10	7	101	9.6	7.9
7/7/1987 12:40	7	102	9.1	8.1
6/23/1987 13:10	6.5	104	10.2	8
6/2/1987 13:00	5.5	107	9.8	8.1
5/6/1987 12:00	4.5	105	9.7	8
4/27/1987 16:20	4	114	9.3	7.5
4/13/1987 14:00	4	112	8.3	8.1
9/9/1986 13:00	10.5	82	9	8.2
8/25/1986 11:30	10	84	8.9	8.3
7/30/1986 11:00	10	79	6.8	8.3
7/16/1986 16:05	9	89	6.5	7.3
6/12/1986 9:55	8	100	8.2	7.2
5/23/1986 9:20	7.5	96	8.6	7.8
5/13/1986 8:00	7.5	104	9.1	8.1
4/29/1986 14:00	5.5	110	9	7.5
8/23/1984 13:30	10	85		
7/27/1984 13:40	13	82		
6/27/1984 15:15	10.5	70		
6/6/1984 12:25	7	85		
3/7/1984 14:40	2.5	130		
1/31/1984 12:20	2.5	106		
11/15/1983 13:00	8	110		
10/6/1983 11:20	9	110		
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7/5/1983 15:00	9.5	130		
5/25/1983 16:30	6	120		
5/5/1983 14:45	3	120		
3/30/1983 9:50	4	70		
2/25/1983 12:00	4	115		
8/18/1982 14:55	10	106		
5/14/1982 10:45	4.5	130		
2/23/1982 15:00	2			
1/26/1982 12:30	2	130		
11/18/1981 11:45	6	135		
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9/3/1981 10:00	8.5	97		
7/30/1981 13:00	5.5	95		
7/1/1981 11:00	8	100		
5/20/1981 11:00	5.5	95		
4/15/1981 11:00	4	100		
3/11/1981 14:45	3	120		
2/3/1981 13:30	3.5	100		
12/12/1980 10:25	4	70		
11/6/1980 12:00	8	90		

10/8/1980 16:45	9.5	87
9/10/1980 16:35	10	80
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6/12/1980 11:50	8.5	100
5/22/1980 12:40	5	110
4/17/1980 13:10	3	110
3/6/1980 13:05	3	120
1/23/1980 15:30	3	140
11/8/1979 13:20	7	120
10/4/1979 13:50	10	100
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7/19/1979 0:00	7	110
6/19/1979 0:00	5	120
6/1/1979 0:00	5	120
5/2/1979 0:00	4	120
3/27/1979 0:00	3	120
2/14/1979 0:00	3	130
1/9/1979 0:00	1	100
12/7/1978 0:00	2	95
11/2/1978 0:00		110
10/4/1978 0:00	10.5	95
8/24/1978 0:00	9	100
7/18/1978 0:00	8	120
5/23/1978 0:00	6	130
4/26/1978 0:00	4	125
3/22/1978 0:00	4	260
2/23/1978 0:00	0.5	130
1/24/1978 0:00	1	140
12/14/1977 0:00	2.5	120
11/16/1977 0:00	6	130
10/13/1977 0:00	7	135
8/15/1974 11:10	9	
7/17/1974 11:10	8.5	
6/12/1974 13:30	8	
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3/13/1974 13:15	3	
2/13/1974 13:20	3	
1/16/1974 13:40	2	
12/12/1973 13:15	2	
11/21/1973 11:55	4.5	
10/3/1973 14:50	10.5	
8/8/1973 15:25	8.5	
7/18/1973 11:00	8	
5/21/1973 14:30	4.5	
4/16/1973 12:25	4	
3/28/1973 11:20	3	
2/21/1973 11:15	3	
1/10/1973 12:35	3	

11/15/1972 11:15	6			
7/12/1972 14:10	8			
6/29/1972 12:30	12			
6/29/1972 11:15	12			
6/20/1972 14:30	7	105	8.8	7.9
4/4/1972 16:05	4			
3/8/1972 10:45	3			
2/9/1972 12:05	3			
12/8/1971 11:30	2			
11/15/1971 12:10	12			
10/28/1971 9:50	9	93	7.4	7.2
9/9/1971 11:50	10			
8/4/1971 10:50	10			
6/23/1971 16:50	7.5			
6/7/1971 13:30	7			
5/27/1971 12:45	6	99	8.6	7.4
5/12/1971 11:20	5			
5/11/1971 18:00	5			
4/3/1971 18:25	5			
3/3/1971 14:50	3			
1/12/1971 10:10	5			
12/8/1970 13:30	3.5			
11/7/1970 15:30	5.5			
10/26/1970 14:00	8	92		7.7
9/5/1970 9:45	9.5			
8/6/1970 11:40	8.5			
5/14/1970 14:30	4			
4/22/1970 14:00	4			
4/22/1970 13:20	4	119		6.6
4/20/1970 11:55	3			
1/23/1970 14:00	3	111		7.5
10/21/1969 11:15	9	98		6.9
7/9/1969 15:30		97		7.2
5/8/1969 13:20	5			
12/10/1968 14:00	4			
11/7/1968 15:55	6			
10/16/1968 15:00	10			
9/16/1964 14:30	14			

pH

SU

water unfiltered, lab

8.1

8

8.2

8.2

7.7

8.4

8

7.6

8

7.9

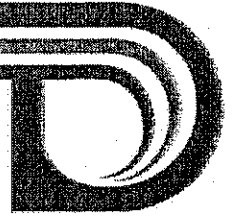
8.1

8.3

Date/Time	Cond (µMhos)	Temp (oC)	DO (mg/L)	pH (SU)
5/24/2000 12:35	101	6	13	7.9
6/20/2000 13:00	93	8	12.3	7.6
7/26/2000 13:40	90	9	9.2	7.7
8/17/2000 12:18	90	9	6	7.6
9/28/2000 12:45	87	11	5	7.5
10/18/2000 12:25	93	10	8.8	7.8
6/6/2001 12:40	107	7	9.8	8.2
7/18/2001 11:42	103	8	7.8	7.5
8/23/2001 12:15	96	9	6.4	7.3
9/19/2001 12:20	103	9	9.2	7.7
1/22/2002 12:30	110	5	9.5	8
5/29/2002 11:45	90	9	8.8	7.7
8/13/2002 12:05	100	11	4	7.5
2/19/2003 11:25	170	4	8.1	8
5/22/2003 11:30	160	10	9	8.1
6/16/2003 12:15	90	5	8.2	7.9
6/30/2003 12:31	77	9		8.3
7/31/2003 12:07	82	19		8
8/27/2003 12:50	74	8	8.5	7.6
9/23/2003 12:35	71	9		7.8
10/7/2003 12:00	60	11	5.5	7.9
12/11/2003 12:15	90	3	8.4	8.3
2/12/2004 11:50	100	2	7.8	7.9

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80204-3412
Phone 303-628-6000 • Fax No. 303-628-6199



April 14, 2004

Subject: Williams Fork Reservoir Hydroelectric Project, FERC No. 2204 -
Issuance of Scoping Document 2 and the Environmental Study Plans to Stakeholders
and Interested Parties

Dear Interested Party,

Denver Water is issuing Scoping Document 2 (SD2) and the Environmental Study Plan for the Williams Fork Hydroelectric Project, FERC Project No. 2204 (Project). A summary of Denver Water's scoping activities for the Project is provided in Section 2.0 of SD2. A brief account of Project information, including Project history and existing facilities and operations, is given, in Section 3.0 and Section 4.0 describes Denver Water's proposed action and alternatives being considered in the relicensing/exemption effort. The remainder of SD2 defines the scope of environmental issues to be addressed in the National Environmental Policy Act (NEPA) evaluation and the scope of the cumulative impacts analysis, as determined through the Project scoping. Distribution of SD2 concludes the Project scoping process.

In addition, Denver Water is sending the Environmental Study Plan (Plan) that outlines the environmental studies to be performed at the Project, the methodologies to be used, and the presentation of study results. Each environmental survey outlined in the Plan will be performed to aid in assessing resources associated with the Project. The results of the surveys will be presented in report form, including maps and photodocumentation, as well as through the geographic information system (GIS) developed for the Project. Copies of these reports will be sent to you once they are complete.

If you have questions regarding this transmittal, please contact me at (303) 628-5987.

Sincerely,

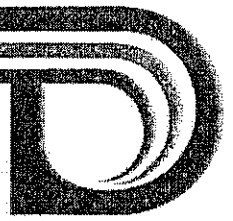
Kevin Urie
Relicensing Project Coordinator

Enclosures: Scoping Document 2
Environmental Study Plan

CONSERVE

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80204-3412
Phone 303-628-6000 • Fax No. 303-628-6199



April 20, 2004

Georgianna Contiguglia
Colorado Historical Society
1300 Broadway
Denver, Colorado 80203-2137

Dear Ms. Contiguglia:

Enclosed please find for your review and comment the following Cultural Resources Inventory report, prepared by Metcalf Archaeological Consultants, Inc. (MAC), under contract for Denver Water:

*Williams Fork Reservoir Hydroelectric Project Relicensing (FERC Project No. 2204)
Class III Cultural Resources Inventory
Grand County, Colorado*

Denver Water is currently implementing the Alternative Licensing Process (ALP) to either relicense the Williams Fork Reservoir Hydroelectric Project (Project) or apply for a small hydroelectric power project exemption, which is located in Grand County, Colorado. On April 28, 2003, Denver Water sent your office a copy of the Initial Information Package (IIP) and Scoping Document 1 (SD1) for the Project.

In SD1, Denver Water proposed to conduct an intensive pedestrian survey (Class III inventory) for the portions of the Project area that were not previously surveyed by Powers Elevation Co., Inc. (Powers) as part of a land exchange between the Bureau of Land Management (BLM) and Denver Water in 1996. The MAC inventory and report was limited to lands not covered by the Powers inventory and covered approximately 494 acres that are owned entirely by Denver Water.

Five previously recorded sites were revisited by MAC. Documentation for three of these sites (5GA1933, 5GA1955, and 5GA1956) was updated because of changes noted in the field. Site 5GA1933 was originally recommended as potentially eligible for inclusion on the NRHP. Subsequent to test excavations, the site was recommended as not eligible. MAC now recommends that the evaluation be changed back to "need data" (potentially eligible) in light of a greatly expanded site boundary and new evidence for depositional potential.

MAC also recorded 13 new prehistoric sites. Seven of these 13 sites (5GA3214, 5GA3216, 5GA3218, 5GA3219, 5GA3223, 5GA3224, and 5GA3226) are recommended as not eligible; four sites (5GA3215, 5GA3217, 5GA3220, and 5GA3221) are recommended as potentially eligible (need data); and two sites (5GA3222 and 5GA3225) are recommended as eligible for inclusion on the NRHP.

Under the Project's proposed action, no land use changes or land disturbing activities are anticipated at any of the sites within the Project boundary as a result of this federal action.

Please provide Denver Water with your determination on recommendations in this MAC report.

If you have questions regarding this project or report, please contact me at (303) 628-5987.

Sincerely,

Kevin Urie
Project Manager

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80202-3412
Phone: (303) 628-6100 • Fax: (303) 628-6144

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OFFICE OF THE
SECRETARY

2004 APR 29 P 3:43

FEDERAL ENERGY
REGULATORY COMMISSION

April 23, 2004

Magalie Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

ORIGINAL

Dear Ms. Salas:

Subject: **Williams Fork Reservoir Hydroelectric Project (FERC No. 2204) -
Request for Designation of Denver Water as Designated Non-Federal
Representative for Section 7 Endangered Species Act Consultation**

Denver Water is currently implementing the Alternative Licensing Process (ALP) to either relicense the Williams Fork Reservoir Hydroelectric Project (Project) or apply for a small hydroelectric power project exemption, which is located in Grand County, Colorado. The current Project license expires on December 31, 2006.

Pursuant to 50 CFR § 402.08, Denver Water hereby requests that the Federal Energy Regulatory Commission (FERC) designate Denver Water as the Commission's non-Federal representative for the purposes of conducting informal Section 7 consultation regarding the Project and preparing a biological evaluation for the Commission's consideration and use in consultation.

If you have questions regarding this request please contact me at (303) 628-5987.

Sincerely,



Kevin Urie
Project Manager

Enclosures: Original and 8 copies to FERC

CONSERVE

ORIGINAL

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80204-3412
Phone: 303-628-6000 • Fax No. 303-628-6199

FILED
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SECRETARY

2004 APR 29 P 2:41

FEDERAL ENERGY
REGULATORY COMMISSION

April 23, 2004

Magalie Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Dear Ms. Salas:

Subject: Request to Initiate Section 106 Consultation for Denver Water's Williams Fork Reservoir Hydroelectric Project (FERC No. 2204)

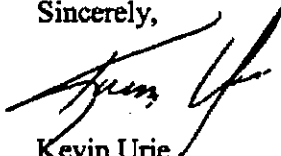
Denver Water is currently implementing the Alternative Licensing Process (ALP) to either relicense the Williams Fork Reservoir Hydroelectric Project (Project) or apply for a small hydroelectric power project exemption, which is located in Grand County, Colorado. This Project has a license expiration date of December 31, 2006.

Pursuant to 36 CFR § 800.2(c)(4), at this time Denver Water requests that the Federal Energy Regulatory Commission (FERC) authorize Denver Water to initiate Section 106 consultation, as described in the National Historic Preservation Act, with the Colorado State Historical Preservation Officer (SHPO) regarding the relicensing or exemption of the Project.

Please note that that 36 CFR § 800.2(c)(4) requires that the FERC notify the SHPO and other consulting parties in writing or by email if this authorization is granted.

If you have questions regarding this request please contact me at (303) 628-5987.

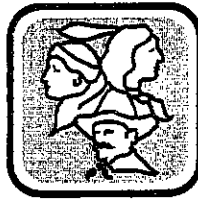
Sincerely,



Kevin Urie
Project Manager

Enclosures: Original and 8 copies to FERC

CONSERVE



COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

April 28, 2004

Kevin Urie
Project Manager
Denver Water
1600 West 12th Avenue
Denver, CO 80204-3412

05-03-04 P01:09 IN

Re: Williams Fork Reservoir Hydroelectric Project Re-licensing
FERC No. 2204

Dear Mr. Urie:

This office has reviewed your April 23, 2004 correspondence and the cultural resource report prepared by Metcalf Archaeological Consultants for the project listed above.

We concur that the following sites are not eligible to the National Register. They consist of sparse lithic scatters with little soil depth which will yield no further information important to prehistory.

5GA1944 (1/22/96)	5GA1945 (3/11/98)	5GA1956 (1/22/96)	5GA3214
5GA3216	5GA3218	5GA3219	5GA3223
5GA3226			5GA3224

Prehistoric sites 5GA1933, 5GA3215, 5GA3217, 5GA3220 and 5GA3221 need to be tested in order to make a final determination of eligibility.

5GA1955 (3/11/98), 5GA3222 and 5GA3225 are eligible to the National Register. These sites appear to have good soil depth and most have diagnostic artifacts. These sites may yield information important to the prehistory of the area.

It is our understanding that the eligible and need data sites will not be affected by the re-licensing of this project.

Thank you for the opportunity to comment on this project. If we may be of further assistance please contact Jim Green at 303-866-4674.

Sincerely,

Georgianna Contiguglia
State Historic Preservation Officer

GC/WJG

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
May 4, 2004

OFFICE OF ENERGY PROJECTS

Project No. 2204-019 - Colorado
Williams Fork Hydroelectric Project
City and County of Denver, Colorado

Mr. Al Pfister
Field Supervisor
U.S. Fish and Wildlife Service
764 Horizon Drive, Bldg. B
Grand Junction, CO 81506

Re: Designation of non-federal representative to conduct informal endangered species consultation

Dear Mr. Pfister:

In a letter of April 23, 2004, the City and County of Denver, Colorado, acting by and through its Board of Water Commissioners (Denver Water), asked the Federal Energy Regulatory Commission (Commission) to designate it as the non-federal representative for the purpose of informal consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act for the Williams Fork Project. By this letter, the Commission designates Denver Water as the Commission's non-federal representative to conduct informal consultation with your agency.

The role of the non-federal representative includes conducting studies, developing and supplying information, attending meetings, ensuring that pertinent endangered species information is maintained in a project file, developing a draft biological assessment, participating in informal consultation with the Service, and keeping the Commission apprised of its actions. We recommend that Denver Water set up a meeting with your office to discuss how the informal consultation will be conducted.

The Commission contact will be Dianne Rodman. If you have any questions please contact Ms. Rodman at (202)502-6077; dianne.rodman@ferc.gov.

Sincerely,

Jennifer Hill
Chief
Hydro West Branch 1

cc: Mr. Kevin Urie
Denver Water Department
1600 West 12th Avenue
Denver, CO 80254

Service List
Public Files

List of Addressees for Letters Inviting Tribes to be Consulting Parties for the Williams Fork Reservoir Project

EASTERN SHOSHONE TRIBE

Mr. Vernon Hill
Chairman, Eastern Shoshone Business Council
Eastern Shoshone Tribe
PO Box 538
Fort Washakie, WY 82514

cc: Mr. Floyd Osborn, Director, Shoshone Tribal Preservation Office

Mr. Floyd Osborn
Director, Shoshone Tribal Preservation Office
Eastern Shoshone Tribe
PO Box 1008
Fort Washakie, WY 82514

NORTHERN ARAPAHO TRIBE

Mr. Burton Hutchinson Sr.
Chairman, Northern Arapaho Business Committee
Northern Arapaho Tribe
PO Box 396
Fort Washakie, WY 82514

cc: Mr. Howard Brown

Mr. Howard Brown
Northern Arapaho Economic Development Commission
Northern Arapaho Tribe
PO Box 9079
Arapahoe, WY 82510

NORTHERN UTE TRIBE

Ms. Maxine Natchees
Chairwoman, Uintah and Ouray Tribal Business Committee
Northern Ute Tribe
PO Box 190
Fort Duchesne, UT 84026

cc: Ms. Betsy Chapoose, Director, Cultural Rights and Protection Department

Ms. Betsy Chapoose
Director, Cultural Rights and Protection Department
Northern Ute Tribe
PO Box 190
Fort Duchesne, UT 84026

SOUTHERN UTE INDIAN TRIBE

Mr. Howard D. Richards Sr.

Chairman

Southern Ute Indian Tribe

PO Box 737

Ignacio, CO 81137

cc: Ms. Edna Frost, Director, Tribal Information Services

Mr. Neil Cloud, NAGPRA Coordinator

Mr. Neil Cloud

NAGPRA Coordinator

Southern Ute Indian Tribe

PO Box 737

Ignacio, CO 81137

Ms. Edna Frost

Director, Tribal Information Services

Southern Ute Indian Tribe

PO Box 737

Ignacio, CO 81137

UTE MOUNTAIN UTE TRIBE

Mr. Harold Cuthair

Acting Chairman

Ute Mountain Ute Tribe

PO Box 248

Towaoc, CO 81334

cc: Mr. Terry Knight, NAGPRA Representative

Ms. Mary Jane Yazzie, Chairwoman, White Mesa Ute Tribal Council

Mr. Terry Knight

NAGPRA Representative

Animas-La Plata Cultural Resource Office

Ute Mountain Ute Tribe

PO Box 468

Towaoc, CO 81334

Ms. Mary Jane Yazzie

Chairwoman, White Mesa Ute Tribal Council

White Mesa Ute Tribe

PO Box 7096

White Mesa, UT 84511

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D.C. 20426

May 6, 2004

OFFICE OF ENERGY PROJECTS

Project No. 2204-019 - Colorado
Williams Fork Hydroelectric Project
City and County of Denver, Colorado

Mr. Kevin Urie
Denver Water
1600 West 12th Avenue
Denver, CO 80254

Re: Section 106 Consultation Authorization.

Dear Mr. Urie:

In your April 23, 2004, letter, you requested that we grant permission for you to initiate Section 106 consultation on our behalf (see enclosed letter). By copy of this letter, we are authorizing the Denver Board of Water Commissioners (Denver Water) to initiate consultation with the Colorado State Historic Preservation Officer, appropriate Native American tribes, and other consulting parties, pursuant to 36 CFR § 800.2(c)(4) of the regulations implementing Section 106 of the National Historic Preservation Act. This consultation pertains to the relicensing effort by Denver Water involving the Williams Fork Hydroelectric Project located in Grand County, Colorado.

We are granting authorization to Denver Water in order for them to conduct day-to-day Section 106 consultation responsibilities in regards to the above relicensing effort; however, the Commission remains ultimately responsible for all findings and determination.

If you have any questions, please contact Dr. Frank Winchell at 202-502-6104.

Sincerely,

Jennifer Hill, Chief
Hydro West Branch 1

Cc: letter w/enclosure:

Ms. Georgianna Contiguglia

State Historic Preservation Officer
Colorado History Museum
1300 Broadway
Denver, CO 80203

Mr. Don Klima
Advisory Council on Historic Preservation
12136 West Bayaud Avenue, Suite 330
Lakewood, CO 80226

Mr. Robert Bush
Office of Planning and Review
Advisory Council on Historic Preservation
12136 West Bayaud Avenue, Suite 330
Lakewood, CO 80226

Mr. Vernon Hill
Chairman, Eastern Shoshone Business Council
Eastern Shoshone Tribe
PO Box 538
Fort Washakie, WY 82514

Mr. Floyd Osborn
Director, Shoshone Tribal Preservation Office
PO Box 1008
Fort Washakie, WY 82514

Mr. Burton Hutchinson, Sr.
Chairman, Northern Arapaho Business Committee
Northern Arapaho Tribe
PO Box 396
Fort Washakie, WY 82514

Mr. Howard Brown
Northern Arapaho Economic Development Commission
Northern Arapaho Tribe
PO Box 9079
Arapahoe, WY 82510

Ms. Maxine Natchees
Chairwoman, Uintah and Ouray Tribal Business Committee

Northern Ute Tribe
PO Box 190
Fort Duchesne, UT 84026

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Director, Cultural Rights and Protection Department
Northern Ute Tribe
PO Box 190
Fort Duchesne, UT 84026

Mr. Howard D. Richards, Sr.
Chairman
Southern Ute Indian Tribe
PO Box 737
Ignacio, CO 81137

Mr. Neil Cloud
NAGPRA Coordinator
Southern Ute Indian Tribe
PO Box 737
Ignacio, CO 81137

Ms. Edna Frost
Director, Tribal Information Services
Southern Ute Indian Tribe
PO Box 737
Ignacio, CO 81137

Mr. Harold Cuthair
Acting Chairman
Ute Mountain Ute Tribe
PO Box 248
Towaoc, CO 81334

Mr. Terry Knight
NAGPRA Representative
Animas-La Plata Cultural Resource Office
Ute Mountain Ute Tribe
PO Box 468
Towaoc, CO 81334

Ms. Mary Jane Yazzie
Chairwoman, White Mesa Ute Tribal Council
White Mesa Ute Tribe
PO Box 7096
White Mesa, UT 84511


Public Files
Service List

Subject: **Williams Fork Reservoir Hydroelectric Project, FERC No. 2204 -**
Issuance of Survey Reports for Noxious Weeds, Erosion, and Wildlife Resources to Stakeholders
and Interested Parties

Denver Water is issuing environmental survey reports for the Noxious Weed, Erosion, and Wildlife Habitat resources associated with the Williams Fork Hydroelectric Project, FERC Project No. 2204 (Project). The Recreational Use survey report is being finalized and will be sent to the Project mailing list once the report has been completed. Because the Cultural Resources survey report contains privileged and sensitive information, this report will not be released to the Project mailing list.

If you have questions regarding this transmittal, please contact me at (303) 628-5987.

Sincerely,



Kevin Urie

Enclosures: Noxious Weed Survey Report
Erosion Survey Report
Wildlife Habitat Survey Report

CONSERVE

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado

Laboratory Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

<http://www.cdphe.state.co.us>



Colorado Department
of Public Health
and Environment

June 9, 2004

Kevin Urie
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204

06-14-04 P03:05 OUT

Re: Section 401 Water Quality Certification
Colorado 401 Certification No.: 2987
FERC License: 2204

Description: Federal Energy Regulatory Commission (FERC) re-licensing of existing hydroelectric generation facility.

Location: Southwest of Parhalls, Colorado on the Williams Fork River. Outfall of dam is at approximately 40.03497 North, 106.20475 West in Grand County, Colorado.

Watercourse: Williams Fork River, Upper Colorado River Basin, Segment CoUCUC08 of Upper Colorado River Sub-basin.

Designation: Reviewable

Dear Mr. Urie:

The Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division (Division) has completed its review of the subject Clean Water Act (CWA) Section 404 Permit Application, and our preliminary determination with the issuance of the State of Colorado 401 Certification Public Notice (5 CCR 1002-82.5(B)). An antidegradation review has also been completed pursuant to Regulation No. 31, Basic Standards and Methodologies for Surface Water (5 CCR 1002-31). The Division's review concluded that only temporary impacts to water quality should occur as a result of this project.

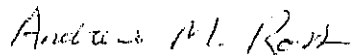
This letter shall serve as official notification that the Division is issuing "Regular Certification" in accordance with 5 CCR 1002-82.5(A)(2).

The 401 Certification issued by the Division pursuant to 5 CCR 1002-82.3(C) shall apply to both the construction and operation of the project for which a federal license or permit is required, and shall apply to the water quality impacts associated with the project.

This certification does not constitute a relinquishment of the Division's authority as defined in the Colorado Water Quality Control Act, nor does it fulfill or waive any other local, state, or federal regulations.

If you have any questions or need additional information, please contact Andrew Ross at (303) 692-3540.

Sincerely,

A handwritten signature in dark ink, appearing to read "Andrew M. Ross". The signature is written in a cursive, slightly slanted style.

Andrew Ross
Water Quality Assessor
Water Quality Control Division
Colorado Department of Public Health and Environment

Attachment

cc: Federal Energy Regulatory Commission, Washington, D.C. 20426
District Engineer, Mr. Andy Poirot, Water Quality Control Division w/o attachment
File

Certification Requirements:

(A) The following requirements shall apply to all certifications:

- (1) Authorized representatives from the Division shall be permitted to enter upon the site where the construction activity or operation of the project is taking place for purposes of inspection of compliance with BMPs and certification conditions.
- (2) In the event of any changes in control or ownership of facilities where the construction activity or operation of the project is taking place, the successor shall be notified in writing by his predecessor of the existence of the BMPs and certification conditions. A copy of such notification shall be provided to the Division.
- (3) If the permittee discovers that certification conditions are not being implemented as designed, or if there is an exceedance of water quality standards despite compliance with the certification conditions and there is reason to believe that the exceedance is caused, in whole or in part, by the project, the permittee shall verbally notify the Division of such failure or exceedance within two (2) working days of becoming aware of the same. Within ten (10) working days of such notification, the permittee shall provide to the Division, in writing, the following:
 - (a) In the case of the failure to comply with the certification conditions, a description of (i) the nature of such failure, (ii) any reasons for such failure, (iii) the period of non-compliance, and (iv) the measures to be taken to correct such failure to comply; and
 - (b) In the case of the exceedance of a water quality standard, (i) an explanation, to the extent known after reasonable investigation, of the relationship between the project and the exceedance, (ii) the identity of any other known contributions to the exceedance, and (iii) a proposal to modify the certification conditions so as to remedy the contribution of the project to the exceedance.
- (4) Any anticipated change in discharge location and/or quantities associated with the project which may result in water quality impacts not considered in the original certification must be reported to the Division by submission of a written notice by the permittee prior to the change. If the change is determined to be significant, the permittee will be notified within ten days, and the change will be acknowledged and approved or disapproved.
- (5) Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions herein is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with limitations and prohibitions herein. The Division shall be notified immediately in writing of each such diversion or bypass.

- (6) At least fifteen days prior to commencement of a project in a watercourse, which the Division has certified, or conditionally certified, the permittee shall notify the following:
- (a) Applicable local health departments;
 - (b) Owners or operators of municipal and domestic water treatment intakes which are located within twenty miles downstream from the site of the project; and
 - (c) Owners or operators of other intakes or diversions which are located within five miles downstream from the site of the project.

The permittee shall maintain a list of the persons and entities notified, including the date and form of notification.

- (7) Immediately upon discovery of any spill or other discharge to waters of the state not authorized by the applicable license or permit, the permittee shall notify the following:
- (a) Applicable local health departments;
 - (b) Owners or operators of municipal and domestic water treatment intakes which are located within twenty miles downstream from the site of the project; and
 - (c) Owners or operators of other intakes or diversions which are located within five miles downstream from the site of the project.

The permittee shall maintain a list of the persons and entities notified, including the date and form of notification.

- (8) Construction operations within watercourses and water bodies shall be restricted to only those project areas specified in the federal license or permit.
- (9) No construction equipment shall be operated below the existing water surface unless specifically authorized by the 401 certification issued by the Division.
- (10) Work should be carried out diligently and completed as soon as practicable. To the maximum extent practicable, discharges of dredged or fill material shall be restricted to those periods when impacts to designated uses are minimal.
- (11) The project shall incorporate provisions for operation, maintenance, and replacement of BMPs to assure compliance with the conditions identified in this section, and any other conditions placed in the permit or certification. All such provisions shall be identified and compiled in an operation and maintenance plan which will be retained by the project owner and available for inspection within a reasonable timeframe upon request by any authorized representative of the Division.

- (12) The use of chemicals during construction and operation shall be in accordance with the manufacturers' specifications. There shall be no excess application and introduction of chemicals into state waters.
- (13) All solids, sludges, dredged or stockpiled materials and all fuels, lubricants, or other toxic materials shall be controlled in a manner so as to prevent such materials from entering state waters.
- (14) All seed, mulching material and straw used in the project shall be state-certified weed-free.
- (15) Discharges of dredged or fill material in excess of that necessary to complete the project are not permitted.
- (16) Discharges to state waters not identified in the license or permit and not certified in accordance therewith are not allowed, subject to the terms of any 401 certification.
- (17) Except as otherwise provided pursuant to subsection 82.7(C), no discharge shall be allowed which causes non-attainment of a narrative water quality standard identified in the Basic Standards and Methodologies for Surface Waters, Regulation #31 (5 CCR 1002-31), including, but not limited to discharges of substances in amounts, concentrations or combinations which:
 - (a) Can settle to form bottom deposits detrimental to beneficial uses; or
 - (b) Form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses; or
 - (c) Produce color, odor, or other conditions in such a degree as to create a nuisance or harm existing beneficial uses or impart any undesirable taste to significant edible aquatic species, or to the water; or
 - (d) Are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life; or
 - (e) Produce a predominance of undesirable aquatic life; or
 - (f) Cause a film on the surface or produce a deposit on shorelines.

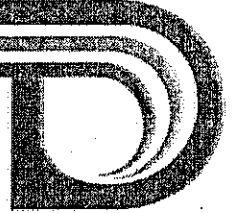
(B) Best Management Practices:

- (1) Best management practices are required for all projects for which Division certification is issued except for section 402 permits. Project applicants must select BMPs to be employed in their project. A listing and description of best management practices is located in Appendix I of Regulation No. 82: 401 Certification Regulation 5 CCR 1002-82.
- (2) All requests for certifications which require BMPs shall include a map of project location, a site plan, and a listing of the selected BMPs chosen for the project. At a minimum, each project must provide for the following:

- (a) Permanent erosion and sediment control measures that shall be installed at the earliest practicable time consistent with good construction practices and that shall be maintained and replaced as necessary throughout the life of the project.
- (b) Temporary erosion and sediment control measures that shall be coordinated with permanent measures to assure economical, effective, and continuous control throughout the construction phase and during the operation of the project.

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80204-3412
Phone 303-628-6800 • Fax No. 303-628-6199



July 28, 2004

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Subject: **Williams Fork Reservoir Hydroelectric Project, FERC No. 2204**
Transmittal of Class III Cultural Resources Inventory and Report for the Project and
Request for Privileged Treatment of the Entire Document

Dear Ms. Salas,

Included in this transmittal is the final report on the Class III Cultural Resources Inventory for the Project. Denver Water requests that the full document receive privileged treatment due to the sensitivity of the cultural information contained in the report and as required under Section 106 of the National Historic Preservation Act (NHPA).

The following contact information should be used for correspondence related to this request for privileged treatment:

Kevin Urie
Project Coordinator
1600 W. 12th Ave.
Denver, CO 80204
303-628-5987
303-628-6852 fax

If you have questions regarding this transmittal, please contact me at (303) 628-5987.

Sincerely,

Kevin Urie
Relicensing Project Coordinator

Enclosure

DENVER WATER

1600 West 12th Avenue, Denver, Colorado 80254-1617
Phone: (303) 733-6000 • Fax: (303) 733-6000



Ms. Patty Schrader Gelatt
U.S. Fish and Wildlife Service
Ecological Services-Western Colorado Field Office
764 Horizon Drive, Building B
Grand Junction, CO 81506

July 28, 2004

Subject: Biological Assessment Williams Fork Reservoir Hydroelectric Project FERC Project
No. 2204

Dear Patty,

Denver Water is currently seeking a small hydroelectric power project exemption or a new license (relicense) from the Federal Energy Regulatory Commission (FERC) for the Williams Fork Reservoir Hydroelectric Project (Project). Information regarding the Project was provided in the *Initial Information Package (IIP)* and *Scoping Document 1 (SD1)*, transmitted to your office on April 21, 2003. Your office provided comments on SD 1 by letter dated June 10, 2003, and in a follow-up telephone conversation on June 23, 2003 (with Steigers Corporation). *Scoping Document 2 (SD2)* was transmitted to you on April 14, 2004.

The FERC has designated Denver Water as the non-federal representative for the purpose of conducting informal Section 7 consultation for the Project under the Endangered Species Act (ESA). Denver Water has prepared and is submitting the enclosed Project draft Biological Assessment (BA) to support consultation under Section 7 of the ESA. The FERC may initiate formal Section 7 consultation upon Denver Water's filing of their license application with the FERC.

We would appreciate your review of the BA. Upon your review, please direct written correspondence to:

Kevin Urie
Denver Water
1600 West 12th Avenue
Denver, Colorado 80254

As part of the FERC application, Denver Water is preparing a Preliminary Draft Environmental Assessment (PDEA) for the Project. You will be provided with the opportunity to review and comment on the PDEA prior to Denver Water filing its application with the FERC.

If you have any questions or wish discuss any aspect of this submittal, please call me at (303) 628-5987 or Hal Copeland of Steigers Corporation at (303) 799-3633. We would like to thank you for your attention and efforts on this Project.

Sincerely,

Kevin Urie
Environmental Planner

Enclosure

cc:	Secretary, Federal Energy Regulatory Commission	1/1
	Hal Copeland, Steigers Corporation	1/0

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80202-3112
Phone: 303.628.6000 • Fax No. 303.628.6139

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OFFICE OF THE
SECRETARY

2004 AUG -3 P 3:10

FEDERAL ENERGY
REGULATORY COMMISSION

ORIGINAL

July 28, 2004

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Subject: **Williams Fork Reservoir Hydroelectric Project, FERC No. 2204**
Transmittal of Section 401 Water Quality Certification for the Project

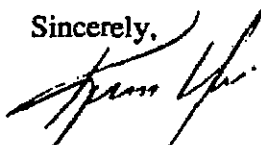
Dear Ms. Salas,

On March 23, 2004, Denver Water filed a request with the Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division (WQCD) for Section 401 certification of the Project.

By letter dated June 9, 2004, the WQCD certified the Project concluding that only temporary impacts to water quality would occur as a result of the Project.

If you have questions regarding this transmittal, please contact me at (303) 628-5987.

Sincerely,



Kevin Urié
Relicensing Project Coordinator

Enclosure

CONSERVE

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80202-4112
Phone: 303-628-6000 • Fax No. 303-628-6199

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OFFICE OF THE
SECRETARY

2004 AUG -3 P 2:44

FEDERAL ENERGY
REGULATORY COMMISSION

ORIGINAL

July 28, 2004

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

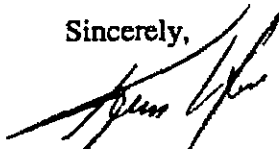
Subject: Williams Fork Reservoir Hydroelectric Project, FERC No. 2204
Transmittal of Letter to the U.S. Fish & Wildlife Service for their Review and
Comment on the Draft Biological Assessment for the Project

Dear Ms. Salas,

Included in this transmittal are one original and eight copies of the letter sent to the USFWS asking for their review and comment of the draft Biological Assessment (BA) for the Project.

If you have questions regarding this transmittal, please contact me at (303) 628-5987.

Sincerely,



Kevin Urie
Relicensing Project Coordinator

Enclosures

CONSERVE



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/CO:FERC
MS 65412 GJ

September 23, 2004

09-27-04 P03:20 IN

Kevin Urie, Environmental Planner
Denver Water
1600 West 12th Avenue
Denver, Colorado 80254

Dear Mr. Urie:

This responds to your July 28, 2004, letter requesting our review of the draft biological assessment for the Williams Fork Reservoir Hydroelectric Project. We understand that the Federal Energy Regulatory Commission (FERC) has designated Denver Water as the non-Federal representative for the purpose of conducting informal consultation under section 7 of the Endangered Species Act.

The Williams Fork Reservoir Hydroelectric Project is an existing project located on the Williams Fork River in northwest Colorado. Denver Water proposes to increase the Williams Fork Project generating capacity from 3.15 mega watts (MW) to approximately 3.65 MW. Installation of an additional generating unit will meet FERC's criterion for a small hydroelectric power project exemption. Denver Water is requesting that FERC review its application for license exemption. If an exemption is denied, Denver Water will request that the same application be reviewed for a new license that would allow Denver Water to continue operating at the 3.15 MW capacity, without the installation of the additional generating unit.

The Service understands that construction associated with the installation of an additional hydroelectric power unit will occur within the existing developed footprint of the powerhouse facility. Implementation of environmental measures and enhancements include minor construction associated with recreation facilities and erosion control. Water depletions to the Colorado River basin associated with the Williams Fork Project will not change under the proposed action.

The Service has reviewed the draft biological assessment and concurs with its conclusion that the water depletions associated with the proposed project are likely to adversely affect the endangered Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), humpback chub (*Gila cypha*), and bonytail (*Gila elegans*). The Service concurs that the project meets all the criteria to fit under the umbrella of the *Final Programmatic Biological Opinion for Bureau of Reclamation's Operations and Depletions, Other Depletions, and Funding and Implementation of Recovery Program Actions in the Upper Colorado River above the Confluence with the Gunnison River* (Service 1999). To complete formal consultation, FERC

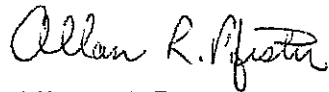
must submit a final biological assessment to the Service. The Service will provide documentation that the proposed project has completed the requirements for Endangered Species Act compliance.

The Service concurs that the proposed project may affect, but is not likely to adversely affect the threatened bald eagle (*Haliaeetus leucocephalus*). The Service also concurs that the proposed project will not affect the endangered Osterhout milk-vetch (*Astragalus osterhoutii*) or the Boreal toad (*Bufo boreas boreas*) (candidate for listing).

Please note the following error on page 9 of the draft biological assessment. Page 9 states that most razorback suckers present in the Colorado River occur in the Parachute area (formerly known as Grand Valley). The Grand Valley referred to in the Osmundson and Kaeding 1989 report is the reach of the Colorado River between De Beque Canyon and Horsethief Canyon (between Palisade and Loma).

If the Service can be of further assistance, please contact Patty Gelatt at the letterhead address or (970) 245-3920 or 243-6209, extension 26.

Sincerely,



Allan R. Pfister
Western Colorado Supervisor

pc: FERC, Washington D.C. (Attn: Jennifer Hill)

PGelatt:FERCDenverWtrWilliamsForkReservoirBA-CL.doc:092204

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80204-3412
Phone 303-628-6000 • Fax No. 303-628-6199

2004 OCT 20 A 10:39
FEDERAL ENERGY
REGULATORY COMMISSION

October 19, 2004

Dear Stakeholders and Interested Parties:

Subject: Williams Fork Reservoir Hydroelectric Project, FERC No. 2204:
Preliminary Draft Environmental Assessment for the Continued Operation of the
Williams Fork Reservoir Hydroelectric Project and the Recreation Management Plan
to Stakeholders and Interested Parties

Last week Denver Water sent out to the Stakeholders and Interested Parties the above mentioned documents. Inadvertently a cover letter was not sent with the documents notifying the recipients of the 30-day review timeframe for the Preliminary Draft Environmental Assessment (PDEA). I am sending this letter to request that all comments on the PDEA for the continued operation of the Williams Fork Reservoir document be sent by **November 19, 2004** to Denver Water and at your discretion to the Federal Energy Regulatory Commission at the following addresses:

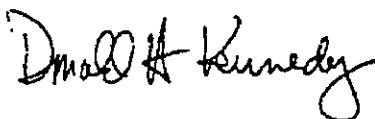
Denver Water
Kevin Urie
1600 12th Avenue
Denver CO 80204

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

After Denver Water receives comments on the PDEA, we will finalize the document and officially submit it to the FERC.

If you have questions regarding this letter or the documents, please contact me at:
(303) 628-6528 prior to October 22, 2004 or Kevin Urie after that date at (303) 628-5987.

Sincerely,



Donald H. Kennedy
Environmental Planner

CONSERVE

Williams Fork State Gout

MR. JOHN BLAIR
COLORADO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER RESOURCES
P.O. BOX 773450
STEAMBOAT SPRINGS CO 80477

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Denver, CO 80202

ORIGINAL

DENVER WATER

1600 West 12th Avenue • Denver, Colorado 80204-3412
Phone 303-628-6000 • Fax No. 303-628-6199

OFFICE OF THE
SECRETARY

2004 OCT 20 A 10:39

FEDERAL ENERGY
REGULATORY COMMISSION

October 19, 2004

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Dear Ms. Salas:

Subject: Williams Fork Reservoir Hydroelectric Project, FERC No. 2204:
Preliminary Draft Environmental Assessment for the Continued Operation of the Williams
Fork Reservoir Hydroelectric Project and Recreation Management Plan

Last week Denver Water sent out to the Stakeholders and Interested Parties the above-mentioned documents. Inadvertently a cover letter was not sent with the documents notifying the recipients of the 30-day review timeframe for the Preliminary Draft Environmental Assessment (PDEA). Subsequently, a letter was sent out on October 19, 2004, to the Stakeholders and Interested Parties requesting their comments on the PDEA. We requested the comments be sent to Denver Water and the FERC, if they choose, by November 19, 2004.

I am enclosing the PDEA for the continued operation of the Williams Fork Reservoir document, the mailing list, and the cover letter to the Stakeholders and Interested Parties that received the above-mentioned documents. Denver Water is requesting from the FERC a 30-day review of the PDEA. After receiving comments on the PDEA, Denver Water will finalize the document and officially submit it to the FERC. Please send your comments by **November 19, 2004**, to Denver Water attention Kevin Urie.

If you have questions regarding this letter or the documents, please contact me at (303) 628-6528 prior to October 22, 2004 or Kevin Urie after that date at (303) 628-5987.

Sincerely,


Donald H. Kennedy
Environmental Planner

Enclosure

CONSERVE



BOARD OF COMMISSIONERS

JAMES L. NEWBERRY
District I, Winter Park 80482
ROBERT F. "BOB" ANDERSON
District II, Granby 80446
DUANE E. DAILEY
District III, Hot Sulphur Springs 80451

PHONE: 970/725-3347
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LURLINE UNDERBRINK CURRAN
County Manager
ANTHONY DICOLA
County Attorney

November 18, 2004

Mr. Kevin Urie
Denver Water
1600 12th Avenue
Denver, CO 80204

11-22-04 P04:37 IN

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

RE: Williams Fork Reservoir Hydroelectric project, FERC No. 2204

Dear Ms. Salas and Mr. Urie:

This letter is being submitted on behalf of the Board of County Commissioners of Grand County, Colorado. First of all, we would note that the Board of County Commissioners' letter of July 20, 2004 submitted to Mr. Urie has never been answered.

In reviewing the Preliminary Draft Environmental Assessment of September, 2004, it is readily apparent that the document does not adequately address NEPA requirements as follows:

1. To our knowledge, there has never been a thorough Environment Impact Statement done for Williams Fork Reservoir, such that it would allow for the minimal review proposed for this project.
2. Despite protestations that there are no major changes with this project, everyone is well aware that there is very little water available in Grand County and any modification is going to have a significant on water availability.
3. There is no attempt in the Environmental Assessment to review, relate, discuss, understand the overall impacts of this project and the impacts on instream flows in the Fraser Valley as well as Dillon Reservoir impact.
4. The Environmental Assessment fails to analyze new impacts based upon

2002 and 2004 hydrology in the Upper Colorado River Basin, and thus effectively ignores future impacts by utilizing a much wetter water cycle.

5. As to cumulative impacts, not only is this project related to future water development being the Moffat Project Enlargement, which goes hand in hand with this project, but also cumulative impacts on the Windy Gap Firming Project by the Municipal Subdistrict Northern Colorado Water Conservancy District as well as Denver's attempt to control the US Bureau of Reclamation Administration of Green Mountain Reservoir as well as buying or otherwise controlling the Shoshone power right at Glenwood Springs, which is presently owned by Xcel Energy. These changes will, combined with any modifications of Denver's system, create major problems in the Upper Colorado River Basin.

Accordingly, the Board of County Commissioners of Grand County would urge that an adequate Environmental Impact Statement be required that would address the many deficiencies in this analysis.

Sincerely,

By: Diane S. Dailey
Commissioner

MIDDLE PARK WATER CONSERVANCY DISTRICT
POST OFFICE BOX 500
GRANBY, COLORADO 80446

November 18, 2004

11-22-04 P04:37 IN

Mr. Kevin Urie
Denver Water
1600 12th Avenue
Denver, CO 80204

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

RE: Comments on Preliminary Draft Environmental Assessment for Williams Fork
Reservoir Hydroelectric Project, FERC No. 2004

Dear Ms. Salas and Mr. Urie:

This will acknowledge receipt on behalf of Middle Park Water Conservancy District of the Preliminary Draft Environmental Assessment. Attached to this letter is a copy of Middle Park Water Conservancy District's comments of July 23, 2003, which it doesn't feel have been addressed in this document. Additional items that are worth mentioning that haven't been included that should be addressed are:

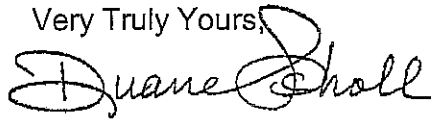
1. The Denver Water Board is attempting to change the way that the Shoshone power plant operates at Glenwood Springs. Since the Denver Water Board is attempting to accomplish that objective as part of the franchise it grants to Xcel Energy to serve the City and County of Denver, that modification will impact Williams Fork operations, including this project.
2. Attached is a copy of an excerpt from the Supplemental EIS for Wolford Mountain Reservoir that clearly states the adverse impacts of any modifications of the Shoshone power plant.
3. As has been previously identified, water is released from Williams Fork Reservoir to supply water pursuant to the Shoshone Call to replace Fraser diversions. In the event the Shoshone Call is modified, as Denver is seeking to do, the impacts are substantial and should be fully analyzed in the Environmental Impact Statement, because it goes hand in hand with

this modification.

4. Under the NEPA requirements, the cumulative impacts of this project combined with Shoshone, the Moffat Expansion, Green Mountain Operations, all need to be studied because they will impact the Upper Colorado River and adversely impact flows available to ranchers as well as flows available for fish and ultimately the endangered fish at the 15 mile reach.
5. The hydrology used to analyze lack of impacts fails to account for the adverse impacts in the year 2002 and 2004 and what the Denver Water Board was allowed to do in those very critical years, including impacts upon fish in Williams Fork Reservoir, fish in the Blue with the release of Dillon water as well as fish below the confluence of Williams Fork and Colorado River in Grand County.

Middle Park appreciates the opportunity to submit its comments.

Very Truly Yours,

A handwritten signature in cursive script that reads "Duane Scholl". The signature is written in dark ink and is positioned below the text "Very Truly Yours,".

Duane Scholl, President

MIDDLE PARK WATER CONSERVANCY DISTRICT

**POST OFFICE BOX 500
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July 23, 2003

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Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Mr. Kevin Urie
Project Coordinator-Williams Fork Project Relicensing
Denver Water
1600 West 12th Avenue
Denver, CO 80204

**RE: Comments on Scoping Document 1 for the Williams Fork Reservoir Project
Hydroelectric Project, FERC Project No. 2204**

Dear Secretary:

The following comments are submitted in response to the Scoping Document on the Williams Fork relicensing by the Middle Park Water Conservancy District. The Middle Park Water Conservancy District is a duly incorporated quasi governmental agency of the State of Colorado, which encompasses Grand and Summit Counties, Colorado.

Section 4.1.2, WILLIAMS FORK RESERVOIR EXISTING OPERATIONS correctly identifies how Williams Fork operates by primarily replacing diversions through the Moffat Tunnel Collection System and Roberts Tunnel Collection System. Water, as noted, is released from the Williams Fork to replace out-of-priority diversions at Dillon Reservoir and from the Fraser Collection System.

Having identified how the reservoir operates, it then attempts to restrict the area under study. While the scoping document identifies fish releases from Williams Fork Reservoir being 15 cfs or inflow, it doesn't do anything to indicate the impacts of Williams Fork replacement on those portions of the Blue River that are impacted by those releases,

nor the Fraser River. Both the Fraser River and the Blue River were severely impacted in 2002 and the Denver Water Board cut back instream flow bypasses on the Fraser River pursuant to their U.S. Forest Service Special Use Permit that impacted the fishery.

Accordingly, it seems like the Scope is unduly limited and should be increased to allow for the study of the project's impacts on those areas that are impacted by the release of water from the Williams Fork specifically to include:

1. Any impacts on the Blue River including Green Mountain Reservoir caused by substitution of Williams Fork water for water that would either be bypassed in the Blue River or exchanged at Green Mountain Reservoir.
2. Impacts on water quality in the Fraser River caused by lower flows in the Fraser River by Denver bypassing water in the Williams Fork that otherwise would be released to the Fraser under call from senior water rights. The entities in the Fraser Valley have, in the past, spent millions of dollars to improve treatment, which is impacted by low flows.
3. The impact on the fishery in the Fraser River caused by Denver cutting back on their bypass flows on all tributaries to the Fraser River including the Fraser River, Ranch Creek, Vasquez, St. Louis, which unlike the Williams Fork bypass flows, are not mandatory, but as was found in 2002, discretionary.

Without analyzing the overall impacts of the Williams Fork diversions on these other areas, the study is completely missing the overall impacts and the scope is totally inaccurate.

Very truly yours,

A handwritten signature in cursive script that reads "Duane Scholl". The signature is written in dark ink and is positioned above the printed name and title.

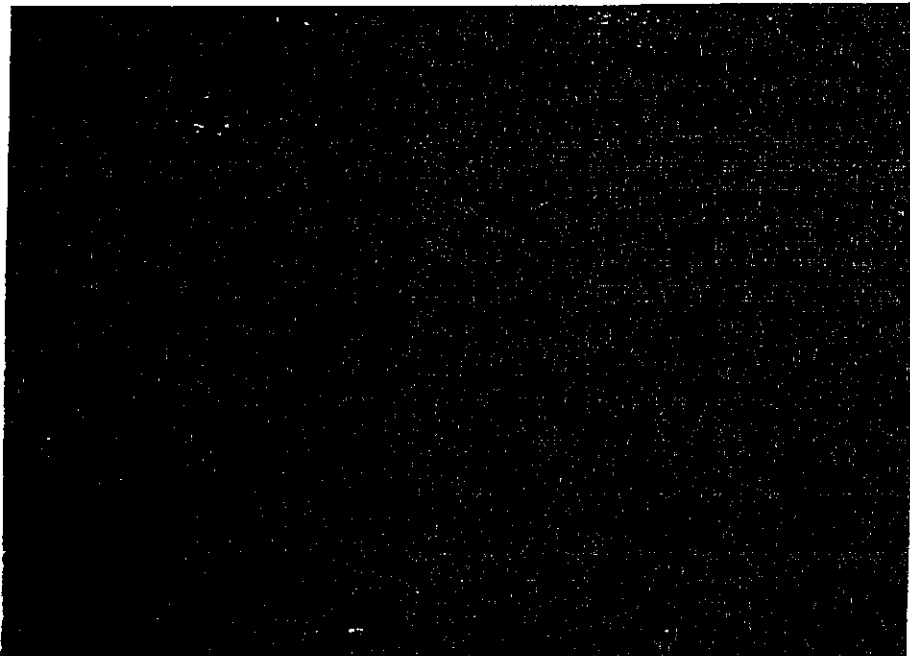
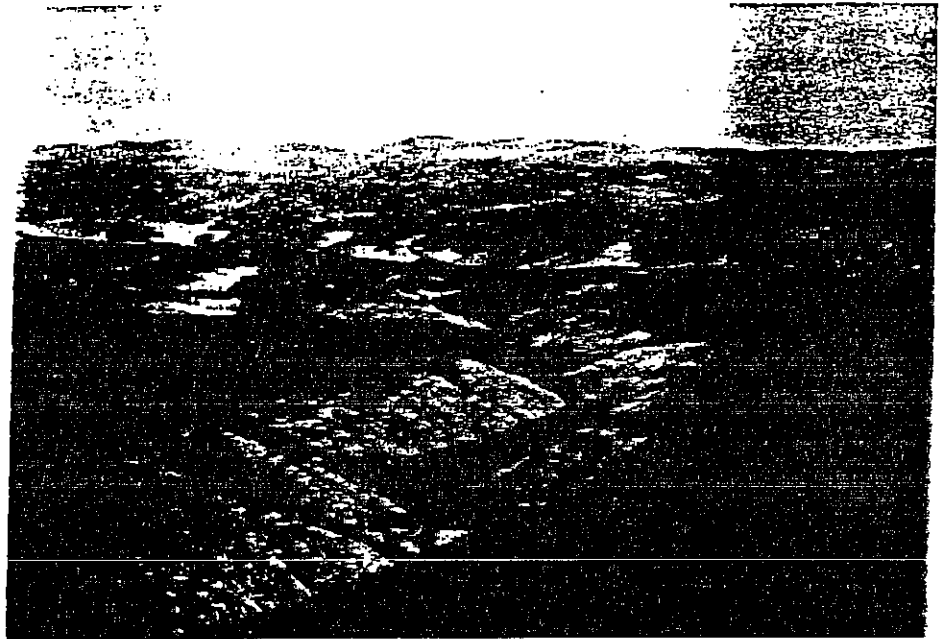
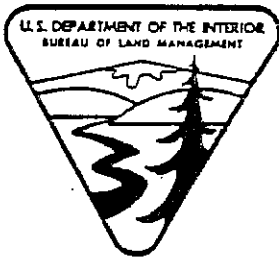
Duane Scholl, President
Middle Park Water Conservancy District

ROCK CREEK / MUDDY CREEK RESERVOIR

Supplemental Draft Environmental Impact Statement

United States Forest Service
Rocky Mountain Region
Lakewood, Colorado

Bureau of Land Management
Colorado State Office
Lakewood, Colorado



United States
Department of
Agriculture



August 1988

APPENDIX E

DENVER-PUBLIC SERVICE COMPANY (PSC) SHOSHONE AGREEMENT

E.1. Discussion

E.1.1. Background. In April 1986, the Denver Board of Water Commissioners entered into an agreement with the Public Service Company of Colorado concerning the operation of the Shoshone Hydroelectric Power Plant. The Shoshone Power Plant, located in Glenwood Canyon, is one of two senior water rights that effectively control the administration of the mainstem of the Colorado River. The Shoshone Power Plant has a 1902 water right for 1,250 cfs and a more junior right for 158 cfs.

With respect to the operation of the Shoshone Power Plant the Agreement states:

During those periods when the Board determines that water available to the Board's diversion and storage facilities is critically impacted by Public Service's senior water right for hydro power generation at its Shoshone Hydroelectric Plant on the Colorado River, the Board may withhold water otherwise required to meet that call, to the extent necessary to meet the Board's needs, but only if no vested downstream or upstream water decrees in Colorado will be injured thereby. The Board shall reimburse Public Service for the costs incurred by it in replacing the power generation lost on account of such withholding. As an alternative, the Board may provide replacement power to Public Service from other sources, or may tender to Public Service any combination of these two alternatives.

In theory, the Denver-PSC Agreement might be considered a functional alternative to the River District-Denver lease because use of the Agreement would reduce the winter demands on replacement releases from Williams Fork Reservoir, thus increasing the supply of water available in Williams Fork Reservoir for use to make up the Green Mountain fill deficit. Providing Denver with the water to replace the Green Mountain fill deficit is the primary function of the short-term demand on Rock Creek or Muddy Creek reservoirs (see Sections 1.2.3.2 and 1.2.3.4). Use of the Denver-PSC Agreement as a possible alternative to the proposed action is examined below.

E.1.2. Legal Issues. There are a number of unanswered legal questions concerning the Denver-PSC Shoshone Agreement. The Agreement states that it will not injure "vested downstream or upstream water decrees." It is not clear whether the intent is to not injure decrees that were vested at the time of the Agreement or whether it will include water decrees which

will also be vested in the future. So far, the Denver Water Board has taken no action in the Colorado water courts to adjudicate the Agreement, so the question remains open to future legal interpretation.

The question of the status of future vested rights may have a significant impact on the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River. Under Section 4.1.3.1, the Recovery Plan anticipates the purchase of water rights for conversion to instream flow purposes and additional filings for instream water rights under the Colorado Instream Flow Law. It is probable that the purchase and/or filing for water rights will be necessary for the Colorado River from approximately 15 miles upstream of the confluence with the Gunnison River to the state line.

If future instream-flow water rights associated with the Recovery Program are considered "vested," it will impact or possibly preclude Denver's ability to utilize the Agreement to obtain additional water yield in drier years. If future instream flows associated with the Recovery Program are not considered "vested," use of the Agreement will reduce the effectiveness of instream flow filings during dry years and likely increase the cost of the Recovery Program (see Section E.3).

A second major legal issue concerning the Denver-PSC Shoshone Agreement is whether or not the Agreement can be selectively administered to benefit Denver only. The Colorado State Engineer and the Colorado Attorney General have ruled that subordination water agreements cannot be selectively enforced. The Agreement involves power generation; thus it raises new legal issues concerning subordination agreements. One possibility is that these legal issues may be avoided by Public Service deciding not to place a call on the river, allowing Denver and many other water users above Shoshone Power Plant to make water diversions without making replacement releases to satisfy the Shoshone Power Plant call. The water diverters impacted by this situation include the City of Colorado Springs (Homestake and Hoosier Pass Projects), the Colorado-Big Thompson Project, West Slope municipalities in Eagle, Summit, and Grand counties, numerous ski areas, and possibly the Windy Gap Project. These diversions would be subject to limitations other than Shoshone such as permit conditions or CWCB instream flows.

The final legal question involves whether or not use of the Denver-PSC Shoshone Agreement meets the River District's purpose for making an application to the Forest Service and Bureau of Land Management for the proposed project. As described in Chapter 1.0, the application is the result of complex litigation involving the adjudication of the Windy Gap Project water rights and the lease is one part of the stipulation that settled water rights claims by the City and County of Denver. The purpose of the River District in implementing the Windy Gap Agreement is to supply additional stored water within the Upper Colorado River Basin. Thus, the Denver-PSC Agreement does not fulfill this purpose.

As described under the No Action Alternative (Section 2.3), if the River District cannot obtain a Federal permit for a project, the River

District would probably have to reopen the litigation and negotiations involving the Windy Gap Project and Denver's West Slope water rights.

E.1.3. Hydrology Issues. The hydrologic issues associated with the Denver-PSC Shoshone Agreement are related to the legal issues. Provided there is not any injury to vested water decrees, use of the Agreement would allow Denver to make diversions on its Williams Fork, Moffat Tunnel, and Roberts Tunnel collection systems without releasing water from Williams Fork Reservoir. Denver could also store water in Williams Fork Reservoir, provided the inflow exceeds the minimum bypass of 15 cfs.

Denver could utilize the Agreement starting in the fall after the irrigation season when the downstream call at Cameo (Grand Valley Irrigation Districts) is not on the river. In dry years, the Cameo call lasts through mid to late October and is usually placed on the river again in early April. A hydrologic analysis of the Agreement is presented in Section E.2, below.

E.1.4. Water Rights that Could Be Injured by the Agreement. The Agreement requires that "no vested downstream or upstream water decrees in Colorado will be injured." There are a number of decrees that could be subject to injury under this condition. Many of these decrees are instream water rights filed for by the Colorado Water Conservation Board. Under Colorado's instream flow statute, the CWCB has the responsibility to make instream flow appropriations to protect the environment to a reasonable degree. To determine the amount of the appropriations, the CWCB analyzes hydrologic, biological, and other environmental data. This process includes input from the Colorado Division of Wildlife and Federal agencies, as appropriate. The CWCB instream flow appropriations are adjudicated in the Colorado water courts with other water rights and given a priority date corresponding to the Board action. The instream rights are administered under the priority system and water rights senior to instream flows are, in theory, not impacted.

If Denver attempts to adjudicate the Agreement, those instream flows senior to the Agreement would be protected. Those instream flows junior to the Agreement may or may not be impacted depending on the judicial interpretation of the language in the Agreement.

A list of existing, pending, and future water decrees that may be impacted by the Agreement is shown in Table E.1.

E.1.5. Possible Scenarios. It has been suggested that use of the Denver-PSC Shoshone Agreement could provide Denver with an alternative source of water to the River District-Denver lease. The Agreement covers a period of time from 1986 through January 1, 2007. At that point, the Agreement must be renegotiated. The River District-Denver lease would cover a time period from the early 1990's through the year 2015 to 2020. It is likely that a major Front Range water project would be in operation

Table E.1. Existing, Pending, and Future Water Decreases
Potentially Impacted by Agreement

Water Right(s)	Amount (cfs)	Decree Status	Priority with Respect to Agreement
Instream flow on Colorado River between confluence with Williams Fork and Troublesome	135	Absolute	Senior
Instream flow on Colorado Colorado River between confluence with Troublesome and Blue River	150	Absolute	Senior
Water decrees associated with oil shale diversions on Lower Colorado River	Various (approx. 600 cfs) ¹	Conditional	Senior
Instream flow on Blue River below Dillon Reservoir	Various Note ²	Pending Adjudication	Junior
Instream flow on Colorado River 15-mile Reach	To be determined by Recovery Plan ³	Future	Junior
Instream flow on Colorado River from confluence with Gunnison to state line	To be determined by Recovery Plan 2,000 cfs winter target ³	Future	Junior

Notes:

1. The 600 cfs number representing oil shale development on the Colorado River is an assumption used by the Department of Interior in the Ruedi Water Marketing Program Environmental Impact Statement.
2. In October 1987, the Colorado Water Conservation Board approved the filing of instream flows on the Blue River. These filings are pending adjudication.
3. The Recovery Plan anticipates filings on the Colorado River. The flow amounts must be determined. The Recovery Plan Section IV.A.1.a. assumes that the Aspinall Unit (Blue Mesa Reservoir) interim releases will be made to ensure no less than 2,000 cfs at state line in 9 out of 10 years.

by approximately 2010. From a timing perspective, use of the Agreement and the Denver lease are roughly equivalent. Whether the Agreement provides Denver with a water source equivalent to the lease depends on the hydrologic and legal assumptions made concerning implementation of the Agreement.

Under the River District-Denver lease, Denver is provided with 45,000 acre-feet of reservoir water over a 3-year period, with releases not to exceed 30,000 acre-feet in any one year. The intent of the River District is to design and build the proposed project (Rock Creek or Muddy Creek) with sufficient storage to meet these requirements over a drought period similar to 1954-1956. The 1954 to 1956 period is used because it is the period which determines the Denver water system firm yield.

For analysis, two scenarios have been considered:

SCENARIO ONE. Denver seeks to utilize the Denver-PSC Shoshone Agreement, but Denver is limited to utilizing the Agreement in a manner that does not injure any water rights junior or senior to the Agreement.

SCENARIO TWO. Denver seeks to utilize the Denver-PSC Shoshone Agreement, but Denver is limited to utilizing the Agreement in a manner that does not injure water rights senior to the Agreement, but may impact water rights junior to the Agreement without this impact being considered an injury.

Other scenarios are possible but not probable. It is conceivable that Denver could attempt to remove interference from instream flows by asking the CWCB to modify or abandon its instream flow filings or seek legislative changes to the instream flow law. It is also possible that rather than face the legal issues, Denver and Public Service Company could make a joint decision that Public Service Company will simply not utilize the Shoshone water rights to place a call on the river. None of these possibilities is considered likely and none are analyzed in detail.

Scenario Two represents the maximum amount of water that would be available to Denver under terms of the Agreement. The amount of water available to Denver under Scenario One cannot be determined precisely since it is not known what water rights might be adjudicated junior to the Agreement (e.g., additional CWCB instream flows). It is certain, however, that there would be less water available to Denver under Scenario One than under Scenario Two. Consequently, only Scenario Two is analyzed in detail in the following sections.

E.2. Hydrologic Impacts

For Scenario Two, a brief analysis of the available water as a result of the Denver-PSC Agreement was made for dry-year conditions. Dry years were analyzed in the October through March months when the Shoshone call would usually affect Denver diversions. It was assumed that water availability in October is 25 percent of that available in November, since the Cameo call normally stays on the river until mid-late October. The analy-

sis was based on the administration of the Agreement so that intervening senior water rights are not injured. The most controlling water rights were assumed to be the instream flows on the Williams Fork and mainstem Colorado River between Williams Fork Reservoir and Kremmling.

A spreadsheet analysis was developed to estimate when flows would be available under the terms of the Agreement and the amount of water that would be available to the Denver system under Scenario Two. The analysis was developed for the dry years of 1954, 55, 77, 78, 82 when extremely low winter flows were experienced. The results are presented in Table E.2. A description of the individual columns in Table E.2 follows:

Column Description of Table E.2

- Column 1. The measured flow in the Colorado River at Hot Sulphur Springs gage.
- Column 2. The measured flow below Williams Fork Reservoir in Williams Fork (in 1955 this was calculated from inflows and change in storage since the outflows were not measured).
- Column 3. The measured flows in Troublesome (combination of the East Fork flows and the Troublesome Creek near Pearmont).
- Column 4. The release from Williams Fork Reservoir.
- Column 5. The total Moffat system diversion to the East Slope.
- Column 6. The "natural flow" in the Williams Fork (column 2 - column 4).
- Column 7. The "natural flow" in the Colorado River above Troublesome Creek (column 1 + column 5 + column 6).
- Column 8. The "natural flow" in the Colorado River below Troublesome Creek (column 7 + column 3).
- Column 9. Net usable flow is the "natural flow" that is above minimum streamflow requirements, the least of the flow above 15 cfs for column 6, 135 cfs for column 7, or 150 for column 8.
- Column 10. The calculated depleted inflow to Dillon Reservoir (line 31 of Green Mountain Reservoir Operational Model with 28,800 water sales scenario).
- Column 11. Net usable flow at Dillon Reservoir. This is any flow in excess of the 50 cfs minimum streamflow requirement.
- Column 12. The total usable flow available under the Shoshone Agreement in cfs for each month (column 11 + column 9), except as noted for October.
- Column 13. Column 12 expressed in acre-feet.

Fig. E.1 is a schematic of the Upper Colorado River collection, storage, and delivery system as discussed in Section 1.2.3.4. The figure is annotated to show the geographic location of the flow measurements or flow computations for each column in Table E.2.

For the dry-year winter conditions analyzed, the water that would be available to Denver as a result of the Denver-PSC Shoshone Agreement ranges from a low of 982 acre-feet (water year 1982) to a high of 6,296 acre-feet (water year 1978) if the Agreement is administered so that intervening senior water rights are not injured. As noted, the controlling senior water rights considered were the 135 cfs CWCB instream flow on the Colorado River above Troublesome Creek, the 150 cfs CWCB instream flow on the Colorado River below Troublesome Creek, and the 15 cfs permit requirement on the Williams Fork River below the dam (see Fig. E.1). Thus, the Agreement does not provide Denver with a source of water equivalent to that available under the River District-Denver lease. Either Rock Creek or Muddy Creek reservoir would provide 45,000 acre-feet of water over a 3-year period, with releases not to exceed 30,000 acre-feet in any 1 year. The Agreement provides, at most, about 20 percent of the water that would be available under the lease in a dry period.

It should be noted that the quantity of water available under the Agreement, as shown in Table E.2 (Scenario Two), assumes that Denver recognizes the onset of a drought period as early as October of the first dry year of the period. In all likelihood, snow course data and other hydrologic indicators would not alert water managers to the onset of a dry period until January or February, reducing drastically the amounts of water potentially available.

While Scenario Two assumes that the Agreement would be administered to insure no injury to water rights senior to the Agreement (April 14, 1986), Scenario One assumes administration to insure no injury to either junior or senior water rights. Such junior water rights could be new (post-April 1986) CWCB instream flow filings or filings for the Recovery Program for endangered Colorado River fish. The Recovery Program anticipates the purchase of water rights for conversion to instream flow purposes and additional filings for instream water rights under the Colorado Instream Flow Law. Because the amounts of these potential future decrees are not known, Scenario One cannot be analyzed in detail. However, depending on the amounts of these future decrees, the quantity of water available under the Agreement would range from zero up to no more than the amount available under Scenario Two as shown in Table E.2. Thus, in terms of water availability, the Denver-PSC Shoshone Agreement is not functionally equivalent to the construction of a water storage facility on either Rock Creek or Muddy Creek.

It should also be noted that, although the Agreement would provide some water to Denver, it would not supply any of the additional short-term or long-term water needs to be serviced by Rock Creek or Muddy Creek reservoir. Either of these reservoirs would supply the water necessary (short-term and long-term) to make up Green Mountain Water operations shortages to permit full utilization of the 100,000 acre-foot pool, and,

Date 29-Jan-88

Table E.2. Analysis of the Shoshone Subordination Agreement
Scenario 2 No Injury to Senior Water Rights

Williams Fork - Moffat													Blue River		Total Usable Flow	
Month	Colorado Not Williams Troubles.			Williams Hoffat		Natural Flows			Depleted		Net		(cfs)	(af)	(cfs)	(af)
	Sulphur (cfs)	Fork (cfs)	Creek (cfs)	Fork Res. Diversions (af)	Hoffat (af)	Williams Fork (cfs)	Above Troubles. (cfs)	Below Troubles. (cfs)	Net Usable (cfs)	Dillon Inflow (af)	Net Usable (cfs)					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)				
Water Year 1977																
*Oct-76	82.9	110.0	15.0	3480	3580	53.3	194.5	210.3	38.3	7650.0	74.6	8.7	535			
Nov-76	80.5	116.0	11.1	3920	1430	50.0	154.6	165.7	15.7	4110.0	19.2	34.9	2140			
Dec-76	52.0	120.0	6.3	4590	880	45.2	111.6	117.9	0.0	3160.0	1.5	1.5	91			
Jan-77	54.0	122.0	6.3	4970	522	41.0	103.5	109.8	0.0	3090.0	0.3	0.3	21			
Feb-77	61.1	124.0	7.5	4700	396	39.2	107.5	115.0	0.0	2940.0	3.0	3.0	186			
Mar-77	67.3	44.0	11.7	250	395	39.9	113.7	125.4	0.0	3450.0	6.2	6.2	381			
TOTAL Water Year 1977											3354.6					
Water Year 1978																
*Oct-77	62.7	112.0	15.0	3520.0	2080.0	54.7	151.2	166.2	16.2	6870.0	61.9	3.8	232			
Nov-77	73.2	63.3	11.6	1110.0	1330.0	44.6	140.2	151.8	1.8	3760.0	13.3	15.1	927			
Dec-77	74.0	60.0	13.7	1260.0	1030.0	39.5	130.3	144.0	0.0	4610.0	25.1	25.1	1541			
Jan-78	67.9	50.4	13.4	660.0	813.0	39.6	120.8	134.2	0.0	4320.0	20.4	20.4	1251			
Feb-78	66.9	50.9	12.5	680.0	609.0	38.6	116.5	129.0	0.0	3460.0	12.4	12.4	762			
Mar-78	84.2	52.7	15.4	200.0	626.0	49.4	143.8	159.2	8.8	4110.0	17.0	25.8	1584			
TOTAL Water Year 1978											6296.1					
Water Year 1982																
*Oct-81	63.5	179.0	20.6	7990.0	1430.0	48.8	135.6	156.2	0.6	4910.0	30.0	0.8	47			
Nov-81	69.4	101.0	18.6	3730.0	1180.0	38.2	127.5	146.1	0.0	3150.0	3.0	3.0	186			
Dec-81	63.6	45.5	15.6	500.0	891.0	37.4	115.5	131.1	0.0	3030.0	0.0	0.0	0			
Jan-82	65.9	54.7	14.9	1010.0	664.0	38.2	115.0	129.9	0.0	3540.0	7.7	7.7	471			
Feb-82	64.0	46.2	14.7	590.0	500.0	35.6	108.6	123.3	0.0	2930.0	2.8	2.8	175			
Mar-82	85.7	50.8	14.9	530.0	547.0	42.2	136.8	151.7	1.7	3070.0	0.0	1.7	104			
TOTAL Water Year 1982											982.4					

Date 29-Jan-88

Table E.2. Analysis of the Shoshone Subordination Agreement
Scenario 2 No Injury to Senior Water Rights (cont'd)

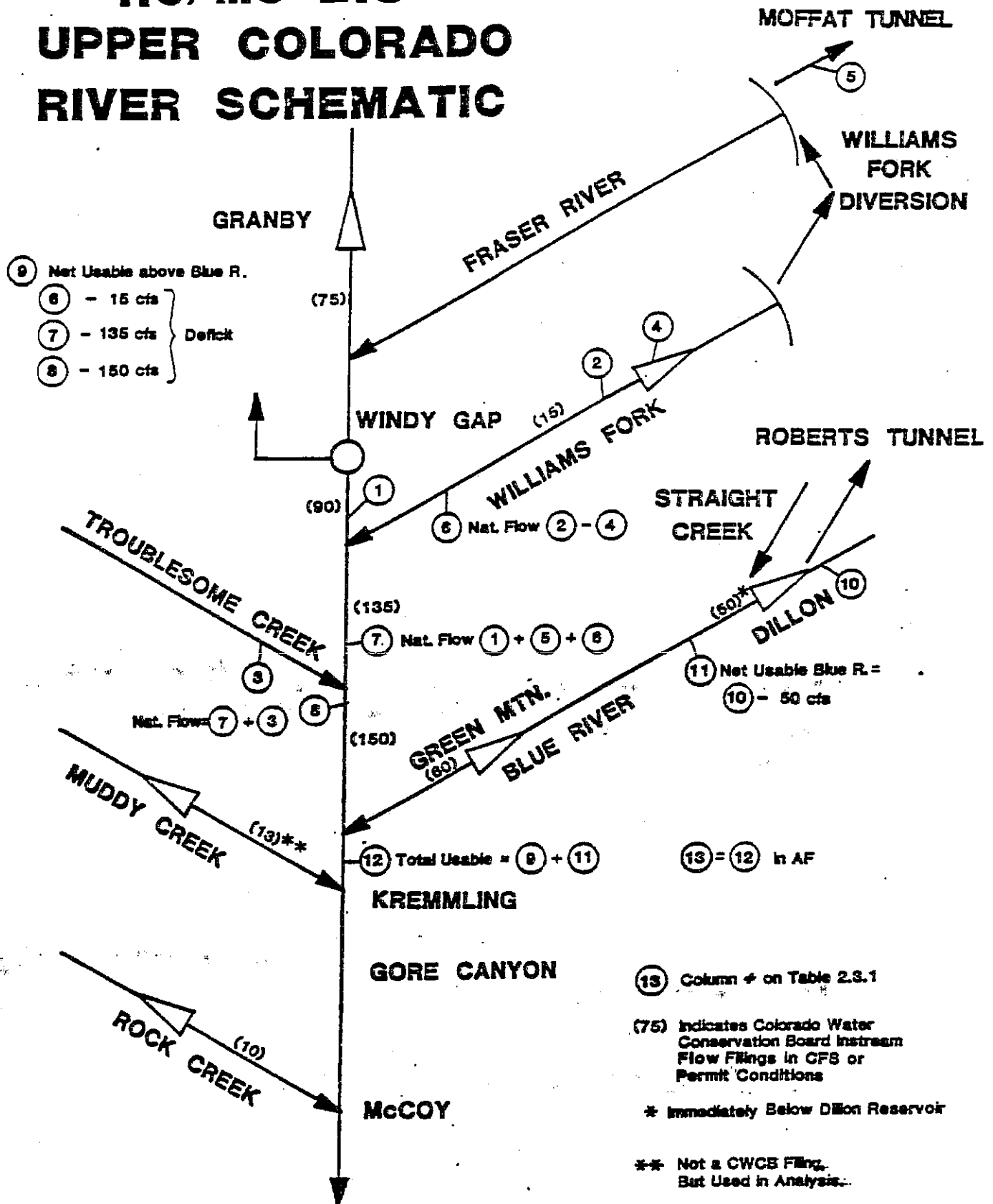
Williams Fork - Moffat													Blue River	
Month	Williams Fork			Williams Fork Res. Diversion			Natural Flows			Depleted		Total Usable Flow		
	Sulphur (cfs)	Fork (cfs)	Creek (cfs)	(af)	(cfs)	Fork (cfs)	Williams Fork (cfs)	Above Troubles. (cfs)	Below Troubles. (cfs)	Net Usable (cfs)	Dillon Inflow (af)	Net Usable (cfs)	(af)	(cfs)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
Water Year 1954														
*Oct-53	75.8	110.0	11.8	3974.0	1190.0	45.3	140.4	152.2	2.2	5120.0	33.4	12.3	756	
Nov-53	96.6	66.6	21.6	148.0	338.0	64.1	166.4	188.0	31.4	4030.0	17.8	49.2	3023	
Dec-53	81.7	49.9	19.4	164.0	0.0	47.2	128.9	148.3	0.0	3630.0	9.1	9.1	561	
Jan-54	72.6	36.5	19.3	0.0	0.0	36.5	109.1	128.4	0.0	3640.0	9.3	9.3	571	
Feb-54	77.9	41.3	22.8	0.0	0.0	41.3	119.2	142.0	0.0	3260.0	8.8	8.8	540	
Mar-54	85.7	42.9	25.2	-31.0	0.0	43.4	129.1	154.3	0.0	3800.0	11.9	11.9	731	
TOTAL Water Year 1954										6181.5				
Water Year 1955														
*Oct-54	68.8	58.7	11.3	710.0	1440.0	47.1	139.4	150.7	0.7	6800.0	60.8	4.7	289	
Nov-54	70.1	43.3	15.6	79.0	1020.0	42.0	129.2	144.8	0.0	4090.0	18.9	18.9	1157	
Dec-54	62.9	28.6	19.0	-79.0	228.0	29.9	96.5	115.5	0.0	3270.0	3.3	3.3	201	
Jan-55	63.8	45.3	16.6	0.0	0.0	45.3	109.1	125.7	0.0	2940.0	0.0	0.0	0	
Feb-55		39.7	16.8	0.0	0.0	39.7	105.8	122.6	0.0	2560.0	0.0	0.0	0	
Mar-55	71.6	30.8	13.2	-240.0	0.0	34.7	106.3	119.5	0.0	3130.0	1.0	1.0	61	
TOTAL Water Year 1955										1708.7				

* October is assumed to be 25% of November because the Cameo call does not come off until last week in October

Figure: E.1.

11-22-04 P0

RC/MC EIS UPPER COLORADO RIVER SCHEMATIC



over the long-term, would provide for projected West Slope water needs such as oil shale demand. Also, the Agreement would not contribute to the operational enhancement of the Upper Colorado River water storage and delivery system (see Section 1.2.3.3). Again, the Agreement can be considered functionally equivalent to the proposed alternative(s).

E.3. Potential Environmental Impacts

Under either Scenario Two or Scenario One of the Denver-PSC Agreement, the potential for environmental impacts would be minimal since so little water would be available. Impacts to the Blue River would not be a concern because Denver currently makes releases from Williams Fork Reservoir and would continue to do so under the Agreement. It would be possible that a reduction in flow in the amounts shown as "Total Usable Flow" (columns 12 and 13) in Table E.2 could be experienced on the Williams Fork River and Colorado River downstream in dry years. Recreational impacts would not be a concern since these depletions would be projected for the late October-March period. Some fishery impacts from flow depletion could be expected in relation to overwintering of adults, juveniles, and eggs for Colorado River trout. However, the flow depletions would be generally less than 10 percent and associated impacts would not generally be considered significant. For example, the Green Mountain Water Sales EIS (USBR, 1988) considered aquatic habitat changes to be significant only when they exceeded 25 percent.

As noted in Section E.1, above, other scenarios similar to the Denver-PSC Agreement are possible but not probable. These include Denver's attempting to remove interference from instream flows by negotiating with CWCB to modify or abandon its instream flow filings, or a joint Denver-Public Service Company decision that PSC simply will not utilize the Shoshone water rights to place a call on the river. Such scenarios are too unlikely to justify detailed analysis; however, they could have significant, far-reaching environmental impacts to the Colorado River and its tributaries if implemented.

For example, if the Shoshone call were simply removed from the river, upstream diverters could reduce flows during the winter months when flows have historically been at their lowest. Such upstream users (other than Denver) include the City of Colorado Springs (Homestake and Hoosier Pass projects), the Colorado-Big Thompson Project, West Slope municipalities in Eagle, Summit, and Grand counties, numerous ski areas in these same counties, and, possibly, the Windy Gap Project. Many small headwater streams could be completely depleted and the mainstem Colorado River could experience significant depletions, except where subject to permit conditions or senior CWCB instream flows.

The potential impacts, both direct and cumulative, to the aquatic habitat of the Colorado River and tributaries could be significant. In some winter months of a dry period, mainstem flows could be reduced as much as 50 percent. Much of this water use may be outside Federal control since existing diversion structures would be used and NEPA analysis, com-

pliance, and mitigation, or other permitting may not be required. For trout in the Colorado River and tributaries winter habitat could be reduced significantly. Overwintering for adults and juveniles could be seriously affected. Spawning areas could be exposed and the over-winter survival of eggs significantly reduced. For endangered Colorado River fish, winter flow depletions in critical habitat reaches could also impact over-winter survival.

Perhaps equally as significant for the Recovery Program for endangered fish species in the Upper Colorado River, elimination of the Shoshone call could involve significant additional financial requirements to insure the flows required in critical reaches. Flows historically available to critical habitat reaches in winter months of dry years have been supported by administration of the Shoshone call. If that call were removed, the Recovery Program could be faced with the additional financial burden of compensating for loss of flows historically resulting from the call. Under the Recovery Program additional water would need to be acquired. Purchase and conversion of irrigation rights would not be practical, since there would be no historic consumptive use during the winter period. The only practical means of acquiring additional water would be purchase of existing reservoir water or construction of additional reservoir storage. The capital cost of such purchase or construction could require from \$1,500 to \$3,000 per acre-foot, and the added financial burden on the Recovery Program could require an up-front investment of from \$20 - \$40 million. Financial concerns would also apply to depleted flows under terms of the Agreement if future instream flows are not considered "vested" (Scenario Two).

E.4. Summary

Analysis of the potential quantity of water available under the terms of Denver-PSC Shoshone Agreement shows that between 1,000 and 6,000 acre-feet might be provided by the Agreement during representative dry years if the Agreement were administered to insure no injury to senior water rights. In all likelihood, water available would be significantly less than projected because of the difficulty in recognizing the onset of a dry period. This would preclude capture of significant amounts of water in November and December. Since, either Rock Creek or Muddy Creek reservoir could provide up to 30,000 acre-feet in a given year, the Agreement would not be functionally equivalent to either proposed reservoir in terms of water availability. The Agreement would meet only a small part of Denver's need (see Section 1.2.3.2) while the River District-Denver lease would meet much more of that projected need.

While the potential environmental impacts of the Denver-PSC Agreement would be minimal because so little water would be available, the impacts of conceivable variations on the Agreement could be significant. If, for example, Public Service Company simply did not utilize their Shoshone water rights to place a call on the river, many upstream diverters, in addition to Denver, could divert from the Colorado River and tributaries during the historically low-flow winter period. Many tributaries might be completely depleted and flows in the Colorado River significantly reduced

with potentially catastrophic impacts in the aquatic environment. Critical habitat reaches for endangered Colorado River fish could also be affected. In addition, without the Shoshone call, the Recovery Program could be faced with a substantial additional financial burden to purchase water rights necessary to compensate for the loss of flow that has been provided historically by the Shoshone call in the winter period.

Thus, the Denver-PSC Shoshone Agreement is not functionally equivalent to either proposed reservoir in terms of water yield. In addition it would not supply any of the additional short-term or long-term East Slope or West Slope water needs such as making up Green Mountain water operations shortages or oil shale demand. Nor would the Agreement contribute to operational enhancement of the Upper Colorado River water storage and delivery system. For these reasons the Agreement was eliminated from further consideration as an alternative to the construction of a reservoir on Rock Creek (or an alternative such as Muddy Creek).

David Nickum
Executive Director
Colorado Trout Unlimited

December 9, 2004

Denver Water
Mr. Kevin Urie
1600 12th Avenue
Denver, CO 80204

Re: Williams Fork Reservoir Hydroelectric Project, FERC No. 2204

Dear Mr. Urie:

On behalf of Colorado Trout Unlimited, I am writing to offer our comments on the Preliminary Draft Environmental Assessment (PDEA) for the Williams Fork Reservoir Hydroelectric Project. CTU's interest in the project is focused on the coldwater fishery located at and below the project site. We encourage Denver Water to seek ways by which it can operate the project to benefit the fishery in the Williams Fork below the dam as well as the Gold Medal stretch of the Colorado.

These comments are organized by page number in the PDEA and highlight points of concern, areas where we believe more data should be presented, and issues on which we are seeking clarification.

p. 11. The PDEA notes that Denver must provide releases of "15 cfs or inflow to the reservoir, whichever is less". However, the inflow to the Williams Fork Reservoir is influenced by Denver's own operations in the Williams Fork headwaters – diversions into the Moffat Collection System. Does this requirement apply to native inflow to the reservoir?

p. 23-25. The PDEA notes the pending Moffat Collection System Project and Windy Gap Firming Project in discussing cumulative impacts. However, Denver is also currently negotiating a relaxation of the Shoshone Call, which would have substantial additional impacts on the Williams Fork and the upper Colorado watershed. In meetings in Grand County, Denver staff have reported that the relaxed Shoshone call would mean less water released from the Williams Fork Reservoir, though we do not know in detail what this change in hydrology would look like. This issue should be disclosed and its implications for the Williams Fork and Colorado River flow regimes and fisheries should be described, as it seems this would lead to substantial departures from the expected conditions described in the PDEA – presumably more frequent and lengthy periods of reduced flow and elevated water temperatures. In general, the PDEA should more fully disclose the cumulative impacts of the Williams Fork project along with existing projects and pending efforts with Moffat, Windy Gap, increased Blue River diversions, relaxation of the Shoshone call, and development of a Wolcott Reservoir for use with exchanges. The current document primarily inventories some (but not all) of these parallel efforts but provides little characterization of the cumulative impacts.

p. 40. Table 2 displays monthly outflows at the full-use demand level. Monthly averages are noted along with minimum and maximums. While the averages – for every month – should provide reasonable fishery benefits for the Williams Fork and the Colorado River, the minimum releases of 18 and 15 cfs noted for March through July cause us some concern. In order to better

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understand the ramifications of Denver's operations, however, it would be helpful to present information not just on the minimum outflows but the frequency with and duration for which those minimums would be experienced. This is displayed on a monthly basis in the appendices, but the extent to which 15 cfs (or lower) flows would be experienced for periods less than a month is not clearly presented. Exceedence tables and curves for daily average flows – shown at a scale that allows for interpretation of the lower end flows – would help to characterize this matter.

p. 41-43. We appreciate Denver's effort to respond to our questions about whether, under lower reservoir levels, the release of water through the penstock intake vs. through the river outlet works might raise temperature issues. As noted in the PDEA, cooler water temperatures due to Williams Fork releases can provide benefits not only in the Williams Fork itself but also to the Colorado River downstream. The PDEA states that the difference between water temperatures recorded at 35 meters and those at 45-50 meters were only approximately 1 degree different in June, July, August, and September. Does the reference to depth (35 meters and 45-50 meters) refer to depth from the reservoirs high water point – therefore having 35 and 50 meters correspond roughly to the two intakes – or to depth from the actual reservoir surface at the time of measurement? If the latter – and the appendices make it appear this is the case – then the analysis fails to respond to our question: is there a significant difference in water temperature between the two outlets during periods of low reservoir levels. The spike reported in 2003 (p. 36) to 19 degrees suggests that, indeed, the penstock intake was taking water from above the thermocline. Indeed, the tables in the appendices show this to be the one measurement period when releases were of a higher temperature than inflows to the reservoir. Under such circumstances, it appears that shifting releases from the penstock intake to the river outlet could help to cool downstream water temperatures and thereby benefit the downstream fisheries.

p. 46. The PDEA reports on river fish population numbers from 2000 and 2001 and characterizes the river as supporting a "robust trout fishery". It would be helpful to report on fish population numbers from the period 2002-2004, as Colorado went into drought conditions and (presumably) Williams Fork operated with low or minimum flows more frequently. That data would be more reflective of the implications for the fish population of the proposed 15 cfs minimum flow.

p. 48-50. The PDEA notes that average expected flows will provide good habitat conditions for trout; accordingly our primary concern is with the low flows of 15 cfs (or less). We have received angler reports from the past year expressing great concern over low flows and elevated temperature. We support the Colorado Division of Wildlife's original recommendation of increasing minimum releases to 25 cfs, and would prefer seeing even higher minimum flows when possible, in the brown trout optimum range identified in the PDEA (30-50 cfs; p. 46). The PDEA states that the proposed 15 cfs provides 80 to 88 percent of the habitat for life stages (except spawning) that is provided at 25 cfs. In other words, the proposed rise in minimum flows would lead to increases of 14% to 25% in available habitat for most brown trout life stages (and even greater increases for spawning). This is not an insignificant benefit and should be given open consideration to allow for FERC to address its responsibilities for considering different benefits from the project including fish and wildlife resources.

The PDEA states that an increase in minimum flows would lessen the Project's "ability to meet its municipal water supply purposes", noting that an extra 10 cfs release for one day would amount to 20 acre-feet. This raises other questions, however. How often would the increased flow be in effect and what would the total impact be? Because Williams Fork is operated in conjunction with other projects in Denver's system, CTU would assume Denver would increase diversions elsewhere to avoid a loss of yield to its system. How would such operations take place

and would those other diversions be in environments where the depletions would have less (or more) impact on aquatic life than in the Williams Fork? Through enhanced releases, the Williams Fork project has the potential to benefit both Williams Fork and Colorado River fisheries, and that potential should be more fully explained in the PDEA. A more complete discussion of the potential for greater minimum releases will allow the public and FERC to draw reasonable conclusions about appropriate instream flow license conditions.

p. 51. The PDEA describes proposed ramping rates. If the Colorado Division of Wildlife concurs that these rates are protective of aquatic life given channel characteristics for the Williams Fork River, we will join them in supporting these rates as conditions for the project license. We also recognize the exemptions to the ramping rates noted by Denver Water; however, we would suggest that Denver should establish a mechanism by which the FERC and the interested public can be informed when such exemptions are invoked.

At your convenience, I would appreciate the opportunity to meet with you to discuss the issues we have raised in greater depth. I would like to have Ken Neubecker, CTU's west slope organizer, join us for such a meeting. I will call you in the coming days to see if we can schedule an appointment. Ken should also be listed in your mailing lists as CTU's primary contact (replacing me) for the Williams Fork licensing process. His contact information is as follows: P.O. Box 1448, Eagle, CO 81631, phone 970-328-2070, email eagleriver@eagleranch.com. Please update your records accordingly.

Thank you for the opportunity to comment and for your consideration of these concerns.

Sincerely,

David Nickum

cc: Ken Neubecker
FERC Project File

David Nickum
Executive Director
Colorado Trout Unlimited

November 19, 2004

Denver Water
Mr. Kevin Urie
1600 12th Avenue
Denver, CO 80204

Re: Williams Fork Reservoir Hydroelectric Project, FERC No. 2204

Dear Mr. Urie:

On behalf of Colorado Trout Unlimited, I am writing to offer our comments on the Preliminary Draft Environmental Assessment (PDEA) for the Williams Fork Reservoir Hydroelectric Project. CTU's interest in the project is focused on the coldwater fishery located at and below the project site. We encourage Denver Water to seek ways by which it can operate the project to benefit the fishery in the Williams Fork below the dam as well as the Gold Medal stretch of the Colorado.

These comments are organized by page number in the PDEA and highlight points of concern, areas where we believe more data should be presented, and issues on which we are seeking clarification.

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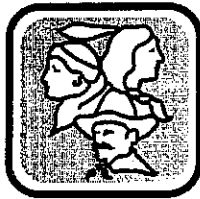
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Thank you for the opportunity to comment and for your consideration of these concerns.

Sincerely,

David Nickum

cc: Ken Neubecker
FERC Project File



**COLORADO
HISTORICAL
SOCIETY**

12-20-04 P02:05 IN

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

December 15, 2004

Kevin Urie
Project Manager
Denver Water
1600 West 12th Avenue
Denver, CO 80204-3412

Re: Williams Fork Reservoir Hydroelectric Project Re-licensing, FERC No. 2204

Dear Mr. Urie:

Our office has reviewed the cultural resource report prepared by Metcalf Archaeological Consultants (See our correspondence of April 28, 2004) and the Preliminary Draft Environmental Assessment for the project listed above.

Date recovery on site 5GA3222 is completed and the eligible and need data sites will not be affected by ongoing activities at the reservoir. Therefore, we concur that no historic properties will be affected by the re-licensing.

If we may be of further assistance please contact Jim Green at 303-866-4674.

Sincerely,

Georgianna Contiguglia
State Historic Preservation Officer

GC/WJG

Appendix B

Denver Water's Responses to Comments on the Draft Preliminary Draft Environmental Assessment

Appendix B

Denver Water's Responses to Comments on the Draft Preliminary Draft Environmental Assessment

Denver Water distributed a draft Preliminary Draft Environmental Assessment (PDEA) to the Participating Parties for review in October 2004. Denver Water received written comments from the following entities.

Entity	Date of Letter
Grand County Board of Commissioners	November 18, 2004
Middle Park Water Conservancy District	November 18, 2004
Colorado Trout Unlimited	November 19, 2004

Copies of the comment letters are included in Appendix A. Individual comments are reproduced below, followed by Denver Water's response to the comment.

Comments from Grand County Board of Commissioners

Comment GC1 To our knowledge, there has never been a thorough Environmental Impact Statement done for Williams Fork Reservoir, such that it would allow for the minimal review proposed for this project.

Response GC1 Denver Water has prepared a Preliminary Draft Environmental Assessment (PDEA) for the Williams Fork Hydroelectric Project in accordance with both FERC and Council of Environmental Quality (CEQ) regulations governing preparation of National Environmental Policy Act documents. One function of an Environmental Assessment is to assist in determining whether an Environmental Impact Statement is necessary (see 40 CFR 1508.9). The FERC will use this PDEA in making its decision whether preparation of an Environmental Impact Statement is necessary (see 40 CFR 1501.3 and 1501.4). The analysis in this PDEA does not suggest that continuing hydroelectric production at the Williams Fork Project would "significantly affect the quality of the human environment" as defined by CEQ regulations (see 40 CFR 1508) and that an EIS would, therefore, be necessary for this project. However, the decision as to whether an EIS will be prepared will ultimately be made by the FERC.

Comment GC2 Despite protestations that there are no major changes with this project, everyone is well aware that there is very little water available in Grand County and any modification is going to have a significant [*sic*] on water availability.

Response GC2 As requested by Grand County during the scoping process, the PDEA discusses and analyzes the hydrologic and environmental effects of the Williams Fork Project based on the maximum use of the Project to store and release water for its municipal water supply purposes. The PDEA considers both current and future project operation and its effects.

Comment GC3 There is no attempt in the Environmental Assessment to review, relate, discuss, understand the overall impacts of this project and the impacts on instream flows in the Fraser Valley as well as Dillon Reservoir impact.

Response GC3 The PDEA clearly reviews, relates, and discusses the overall impacts of the Williams Fork Project. The action of FERC relicensing is limited to the operation of the Williams Fork Reservoir and its power production. Denver Water's diversions on other river systems are not a part of the Williams Fork Project, and none of those diversion structures were authorized by or are otherwise under the jurisdiction of the FERC. Those diversions have independent utility and would exist even in the absence of the Williams Fork Project or in the absence of power production and FERC authority at the Williams Fork Project. Consequently, streamflows in other river systems and potential site specific impacts of diversions are beyond the scope of the FERC's federal action on the Williams Fork Project and are not a part of this process.

Comment GC4 The Environmental Assessment fails to analyze new impacts based upon 2002 and 2004 hydrology in the Upper Colorado River Basin, and thus effectively ignores future impacts by utilizing a much wetter water cycle.

Response GC4 The hydrology used for the analysis in the PDEA includes a 45-year period of record (1947 through 1991). This period of record includes wet years, drought years, and average years. The hydrology over this extended period of record is representative of conditions in the Williams Fork basin.

Comment GC5 As to cumulative impacts, not only is this project related to future water development being the Moffat Project Enlargement, which goes hand in hand with this project, but also cumulative impacts on the Winding Gap Firing Project by the Municipal Subdistrict Northern Colorado Water Conservancy District as well as Denver's attempt to control the US Bureau of Reclamation Administration of Green Mountain Reservoir as well as buying or otherwise controlling the Shoshone power right at Glenwood Springs, which is presently owned by Xcel Energy. These changes will, combined with any modifications of Denver's system, create major problems in the Upper Colorado River Basin.

Response GC5 Cumulative impacts are considered in the PDEA. The Windy Gap Firing Project and enlargement of the Moffat Collection System are discussed in section V.B.2. Green Mountain Reservoir is identified as an existing project that could contribute to cumulative effects in the Colorado River Basin. Denver Water has no authority over the Bureau of Reclamation or its administration of Green Mountain Reservoir. The issue of the Shoshone Call is addressed in response to Middle Park Water Conservancy District Comments MP1, MP2, and MP3.

Comments from Middle Park Water Conservancy District

Comment MP1 The Denver Water Board is attempting to change the way that the Shoshone power plant operates at Glenwood Springs. Since the Denver Water Board is attempting to accomplish that objective as part of the franchise it grants to Xcel Energy to serve the City and County of Denver, that modification will impact Williams Fork operations, including this project.

Comment MP2 Attached is a copy of an excerpt from the Supplemental EIS for Wolford Mountain Reservoir that clearly states the adverse impacts of any modifications of the Shoshone power plant.

Comment MP3 As has been previously identified, water is released from Williams Fork Reservoir to supply water pursuant to the Shoshone Call to replace Fraser diversions. In the event the Shoshone Call is modified, as Denver is seeking to do, the impacts are substantial and should be fully analyzed in the Environmental Impact Statement, because it goes hand in hand with this modification.

Response to MP1, MP2, and MP3 Denver Water believes that relaxation of the Shoshone Call is not a “reasonably foreseeable action” as defined by the Council on Environmental Quality (CEQ) regulations. Relaxation of the Shoshone Call is, at this time, a concept that involves a potential agreement with Xcel Energy and water users (not yet fully identified) to reduce or avoid certain water rights diversions on the Colorado River during times of drought to allow other water rights to divert instead.

Cumulative actions are tautologically defined in the regulations as those that “when viewed with other proposed actions have cumulatively significant impacts” (40 CFR § 1508.25(a)(2)). A cumulative impact is defined by the CEQ regulations as “the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions” (40 CFR § 1508.7).

At this time, it is uncertain if a relaxation agreement can or will be implemented or how it might operate in principle, beyond the most basic concept that Shoshone Call diversions might be altered during drought periods. Even more uncertain are important factors such as when and how the onset of a drought would be recognized, what level of drought would trigger the agreement, and the identification of and extent to which upstream diversions might be altered. Analysis of this issue here would require wholesale speculation and fabrication of the components of a framework that does not exist. Therefore, there is not enough information available to include this item as a reasonably foreseeable action in the analysis of cumulative impacts.

Nonetheless, the PDEA contains adequate analysis of the cumulative impacts of the similar issue of water diversions from the Colorado River and its tributaries and reasonably foreseeable actions involving increased diversions from proposed projects (Windy Gap, Moffat Collection System Project, etc.) within the same general area as might be affected by a Shoshone Call reduction. This analysis adequately makes objective evaluations of the impacts of other reasonably foreseeable actions that reduce streamflows in the Colorado River Basin. Objective data or analysis cannot be provided, however, on undefined agreements between water users in response to undefined drought conditions.

Comment MP4 Under the NEPA requirements, the cumulative impacts of this project combined with Shoshone, the Moffat Expansion, Green Mountain Operations, all need to be studied because they will impact the upper Colorado River and adversely impact flows available to ranchers as well as flows available for fish and ultimately the endangered fish at the 15 mile reach.

Response MP4 The discussion of the scope of cumulative impacts in the PDEA does identify both Green Mountain Reservoir and the Moffat Collection System expansion as projects that are considered within the scope of cumulative impacts. Cumulative effects related to streamflow reductions and endangered fish species are discussed in the PDEA.

Comment MP5 The hydrology used to analyze lack of impacts fails to account for the adverse impacts in the year 2002 and 2004 and what the Denver Water Board was allowed to do in those very critical years, including impacts upon fish in Williams Fork Reservoir, fish in the Blue with the release of Dillon water as well as fish below the confluence of Williams Fork and Colorado River in Grand County.

Response MP5 The hydrology used for the analysis in the PDEA includes a 45-year period of record (1947 through 1991). This period of record includes wet years, drought years, and average years. The hydrology over this extended period of record is representative of conditions in the Williams Fork basin.

Comments from Trout Unlimited

Comment TU1 p. 11. The PDEA notes that Denver must provide releases of “15 cfs or inflow to the reservoir, whichever is less”. However, the inflow to the Williams Fork Reservoir is influenced by Denver’s own operations in the Williams Fork headwaters – diversions into the Moffat Collection System. Does this requirement apply to native inflow to the reservoir?

Response TU1 The minimum flow requirement applies to the measured inflow at the reservoir inlet (USGS Station 09037500 – “Williams Fork near Parshall, Colorado”).

Comment TU2 p. 23-25. The PDEA notes the pending Moffat Collection System Project and Windy Gap Firming Project in discussing cumulative impacts. However, Denver is also currently negotiating a relaxation of the Shoshone Call, which would have substantial additional impacts on the Williams Fork and the upper Colorado watershed. In meetings in Grand County, Denver staff have reported that the relaxed Shoshone Call would mean less water released from the Williams Fork Reservoir, though we do not know in detail what this change in hydrology would look like. This issue should be disclosed and its implications for the Williams Fork and Colorado River flow regimes and fisheries should be described, as it seems this would lead to substantial departures from the expected conditions described in the PDEA – presumably more frequent and lengthy periods of reduced flow and elevated water temperatures. In general, the PDEA should more fully disclose the cumulative impacts of the Williams Fork project along with existing projects and pending efforts with Moffat, Windy Gap, increased Blue River diversions, relaxation of the Shoshone Call, and development of a Wolcott Reservoir for use with exchanges. The current document primarily inventories some (but not all) of these parallel efforts but provides little characterization of the cumulative impacts.

Response TU2 The issue of the Shoshone Call is addressed in response to Middle Park Water Conservancy District Comments MP1, MP2, and MP3. With respect to TU’s comment that the

PDEA should “more fully disclose” the cumulative impacts of the projects, we note that the PDEA does include consideration of both existing storage projects (e.g., Blue River diversions at Dillon Reservoir) and those projects that are considered reasonably foreseeable actions (e.g., Windy Gap Firming Project and Moffat Collection System enlargement). The cumulative effects assessment discusses the fact that the Williams Fork Project will continue to contribute to cumulative effects related to reduced streamflows, water quality effects, trout fisheries, and endangered fish species.

Comment TU3 p. 40. Table 2 displays monthly outflows at the full-use demand level. Monthly averages are noted along with minimum and maximums. While the averages – for every month – should provide reasonable fishery benefits for the Williams Fork and the Colorado River, the minimum releases of 18 and 15 cfs noted for March through July cause us some concern. In order to better understand the ramifications of Denver’s operations, however, it would be helpful to present information not just on the minimum outflows but the frequency with and duration for which those minimums would be experienced. This is displayed on a monthly basis in the appendices, but the extent to which 15 cfs (or lower) flows would be experienced for periods less than a month is not clearly presented. Exceedance tables and curves for daily average flows – shown at a scale that allows for interpretation of the lower end flows – would help to characterize this matter.

Response TU3 Figures showing historic average monthly outflows with 10 percent and 90 percent exceedance bars have been added to Section V.C.2. In addition, we have added exceedance curves based on modeled daily outflows for both full-use and current-use demand levels to Appendix C. We also note that the high quality of the fishery below the reservoir shows that the minimum flows are not having an adverse effect on the downstream trout fishery.

Comment TU4 p. 41-43. We appreciate Denver’s effort to respond to our questions about whether, under lower reservoir levels, the release of water through the penstock intake vs. through the river outlet works might raise temperature issues. As noted in the PDEA, cooler water temperatures due to Williams Fork releases can provide benefits not only in the Williams Fork itself but also to the Colorado River downstream. The PDEA states that the difference between water temperatures recorded at 35 meters and those at 45 to 50 meters were only approximately 1 degree different in June, July, August, and September. Does the reference to depth (35 meters and 45 to 50 meters) refer to depth from the reservoirs high water point – therefore having 35 and 50 meters correspond roughly to the two intakes – or to depth from the actual reservoir surface at the time of measurement? If the latter – and the appendices make it appear this is the case – then the analysis fails to respond to our question: is there a significant difference in water temperature between the two outlets during periods of low reservoir levels. The spike reported in 2003 (p. 36) to 19 degrees suggests that, indeed, the penstock intake was taking water from above the thermocline. Indeed, the tables in the appendices show this to be the one measurement period when releases were of a higher temperature than inflows to the reservoir. Under such circumstances, it appears that shifting releases from the penstock intake to the river outlet could help to cool downstream water temperatures and thereby benefit the downstream fisheries.

Response TU4 We have revised the analysis to correct the 2003 temperature depths for the elevation of the reservoir at the time of sampling. We investigated the single occurrence of the 19°C

temperature reported in 2003 and found that it occurred as a function of a spill, not as a function of low level outlet releases. The text has been revised.

Comment TU5 p. 46. The PDEA reports on river fish population numbers from 2000 and 2001 and characterizes the river as supporting a “robust trout fishery”. It would be helpful to report on fish population numbers from the period 2002-2004, as Colorado went into drought conditions and (presumably) Williams Fork operated with low or minimum flows more frequently. That data would be more reflective of the implications for the fish population of the proposed 15 cfs minimum flow.

Response TU5 We have added a discussion of more recent fisheries data from CDOW to this section, and the data are included in the appendices.

Comment TU6 p. 48-50. The PDEA notes that average expected flows will provide good habitat conditions for trout; accordingly our primary concern is with the low flows of 15 cfs (or less). We have received angler reports from the past year expressing great concern over low flows and elevated temperature. We support the Colorado Division of Wildlife’s original recommendation of increasing minimum releases to 25 cfs, and would prefer seeing even higher minimum flows when possible, in the brown trout optimum range identified in the PDEA (30-50 cfs; p. 46). The PDEA states that the proposed 15 cfs provides 80 to 88 percent of the habitat for life stages (except spawning) that is provided at 25 cfs. In other words, the proposed rise in minimum flows would lead to increases of 14% to 25% in available habitat for most brown trout life stages (and even greater increases for spawning). This is not an insignificant benefit and should be given open consideration to allow for FERC to address its responsibilities for considering different benefits from the project including fish and wildlife resources.

The PDEA states that an increase in minimum flows would lessen the Project’s “ability to meet its municipal water supply purposes”, noting that an extra 10 cfs release for one day would amount to 20 acre-feet. This raises other questions, however. How often would the increased flow be in effect and what would the total impact be? Because Williams Fork is operated in conjunction with other projects in Denver’s system, CTU would assume Denver would increase diversions elsewhere to avoid a loss of yield to its system. How would such operations take place and would those other diversions be in environments where the depletions would have less (or more) impact on aquatic life than in the Williams Fork? Through enhanced releases, the Williams Fork project has the potential to benefit both Williams Fork and Colorado River fisheries, and that potential should be more fully explained in the PDEA. A more complete discussion of the potential for greater minimum releases will allow the public and FERC to draw reasonable conclusions about appropriate instream flow license conditions.

Response TU6 As explained in the PDEA, CDOW clarified the intent of its request for a 25-cfs minimum flow. CDOW simply wanted to ensure that the downstream diversion of up to 10 cfs did not reduce flows in the Williams Fork River to less than 15 cfs. Nonetheless, we have included an analysis of the costs and benefits of providing 25 cfs in the PDEA.

How often the minimum flow would be invoked is dependent on hydrology, water demands, and the exercise of water rights. For purposes of a simplified illustration and based on the future hydrology modeling results, the minimum flow would have been invoked 2,672 days over the 16,436 days in the period of record. Thus, the period of record average would be about 59 days per year at the minimum flow or the equivalent of 1,187 acre-feet per year (at 20 acre-feet per day) of additional water. The cost to replace this amount of firm-yield water could exceed \$11.8 million and would require construction of additional storage facilities somewhere else in the Upper Colorado River Basin. This cost is likely to be conservative because it is based on an estimation of the average loss, whereas it is actually the maximum loss that would need to be replaced. Williams Fork Reservoir provides replacement water for other diversions. By reducing the available storage (through a higher minimum flow), there is less water available to replace other diversions. Hence, TU's assumption that diversions could increase elsewhere is inaccurate. Diversions elsewhere would have to be reduced if there was insufficient storage in Williams Fork Reservoir, and that would directly impact the municipal water supply yield. The analysis in the PDEA is adequate to evaluate both the beneficial and adverse effects of a 25-cfs minimum flow.

Comment TU7 p. 51. The PDEA describes proposed ramping rates. If the Colorado Division of Wildlife concurs that these rates are protective of aquatic life given channel characteristics for the Williams Fork River, we will join them in supporting these rates as conditions for the project license. We also recognize the exemptions to the ramping rates noted by Denver Water; however, we would suggest that Denver should establish a mechanism by which the FERC and the interested public can be informed when such exemptions are invoked.

Response TU7 Comment noted.

Appendix C

Williams Fork Reservoir Modeled Monthly Outflow Data for Current-Use and Full-Use Demand Levels

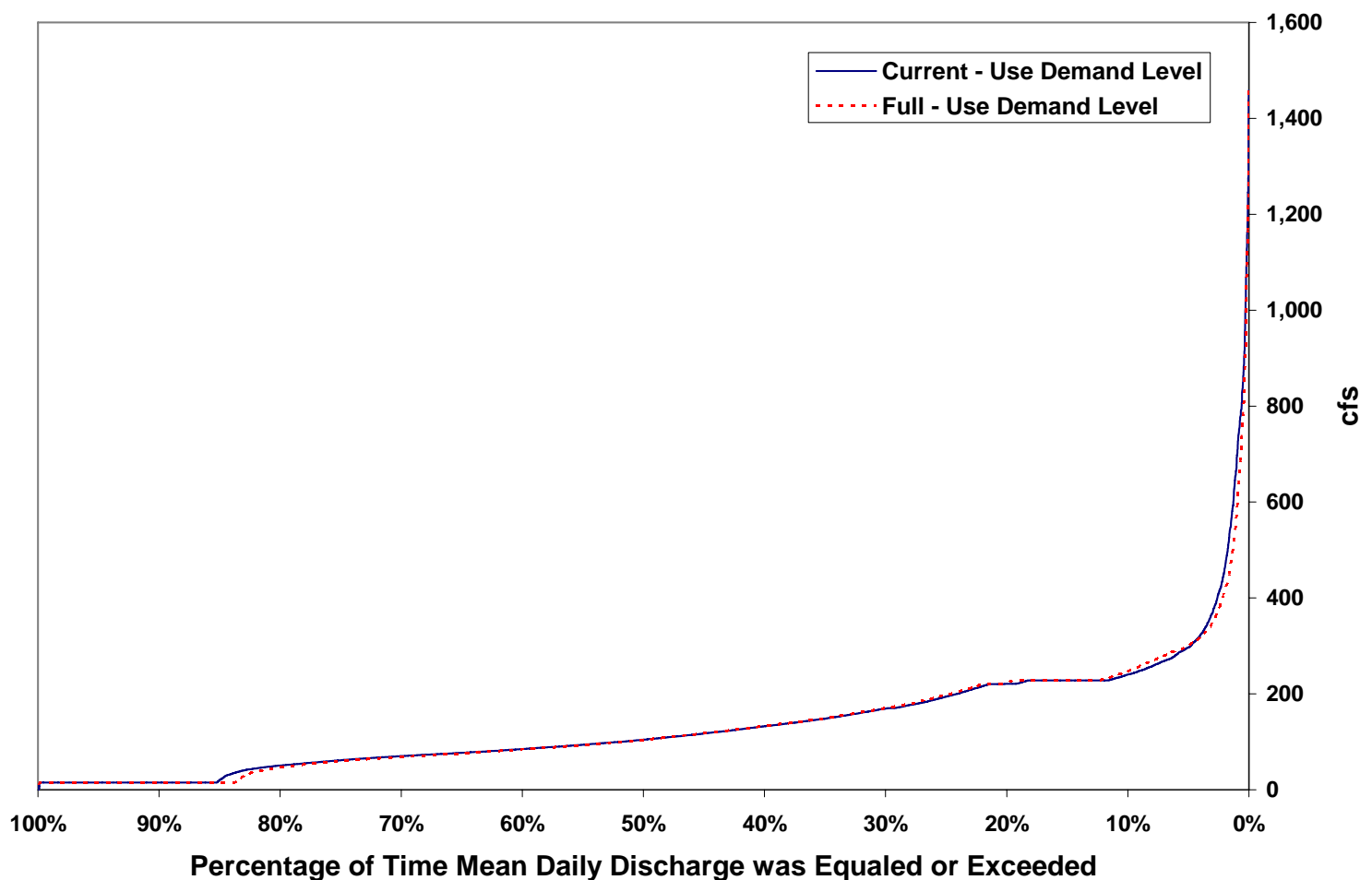
Williams Fork Reservoir Monthly Outflow – Current-Use Demand Level (Base285 Run 42)
IN CUBIC FEET PER SECOND (CFS)

WATER YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	MINIMUM	MAXIMUM
1947	151	130	94	72	69	62	40	228	329	545	195	168	40	545
1948	193	110	120	89	79	80	18	221	484	171	251	163	18	484
1949	159	100	84	80	81	76	236	15	373	397	204	215	15	397
1950	207	152	87	74	78	88	37	228	60	208	227	143	37	228
1951	114	105	87	78	67	220	255	228	15	389	165	213	15	389
1952	167	123	93	74	77	231	244	221	612	275	154	220	74	612
1953	157	120	78	94	66	64	45	238	272	152	197	148	45	272
1954	108	102	75	54	60	54	72	31	103	271	299	88	31	299
1955	146	90	68	117	82	47	31	15	15	194	308	234	15	308
1956	96	79	73	164	122	80	40	15	15	204	188	101	15	204
1957	91	98	74	71	68	67	42	15	228	329	166	153	15	329
1958	192	132	128	104	83	86	248	228	299	190	186	139	83	299
1959	124	90	78	70	61	55	44	15	15	108	177	135	15	177
1960	166	131	101	81	76	48	224	21	239	203	230	142	21	239
1961	130	96	66	43	51	56	84	22	35	200	217	78	22	217
1962	22	231	124	100	62	52	245	233	652	354	199	174	22	652
1963	157	105	74	50	63	64	81	33	35	205	242	286	33	286
1964	135	104	58	93	50	49	60	32	15	101	216	147	15	216
1965	104	107	87	93	83	55	50	15	15	46	177	84	15	177
1966	111	224	99	65	49	68	62	15	124	134	175	147	15	224
1967	139	90	65	56	54	77	65	241	15	62	221	178	15	241
1968	158	131	87	72	69	57	68	221	21	60	83	216	21	221
1969	157	120	82	85	61	50	24	228	150	241	220	221	24	241
1970	162	103	84	90	76	58	244	228	228	170	108	128	58	244
1971	95	201	107	98	93	222	232	228	264	363	227	203	93	363
1972	177	148	102	90	84	74	229	21	15	144	238	173	15	238
1973	154	103	92	72	67	59	64	228	228	334	125	191	59	334
1974	157	139	89	79	65	173	253	228	231	207	183	184	65	253
1975	175	126	95	77	67	52	249	228	15	59	115	214	15	249
1976	157	98	77	74	64	57	45	221	21	78	173	211	21	221
1977	198	131	79	65	61	59	82	32	67	214	310	101	32	310
1978	170	109	97	122	102	78	15	15	15	15	152	171	15	171
1979	144	102	81	77	66	69	38	228	228	148	95	174	38	228
1980	141	136	95	98	81	213	238	21	221	77	190	181	21	238
1981	147	114	86	52	48	56	93	35	25	128	171	173	25	173
1982	133	101	78	100	177	69	31	15	15	353	145	195	15	353
1983	183	129	129	105	123	248	251	228	228	780	250	111	105	780
1984	178	153	78	84	82	183	240	221	1,002	562	225	119	78	1,002
1985	132	267	57	74	68	43	228	228	632	174	138	189	43	632
1986	104	82	103	78	72	16	228	228	447	325	127	177	16	447
1987	100	115	98	90	94	88	53	15	250	85	223	174	15	250
1988	144	122	111	111	95	74	224	21	221	167	265	157	21	265
1989	135	125	93	81	76	73	46	15	15	39	182	173	15	182
1990	133	113	101	76	70	101	112	56	15	46	209	197	15	209
1991	208	141	89	72	68	87	105	32	15	99	224	213	15	224
AVERAGE:	145	125	89	83	76	87	125	123	189	213	195	169	76	213
MINIMUM:	22	79	57	43	48	16	15	15	15	15	83	78	15	83
MAXIMUM:	208	267	129	164	177	248	255	241	1,002	780	310	286	129	1,002

Williams Fork Reservoir Monthly Outflow – Full-Use Demand Level (Baseline Run 43)
IN CUBIC FEET PER SECOND (CFS)

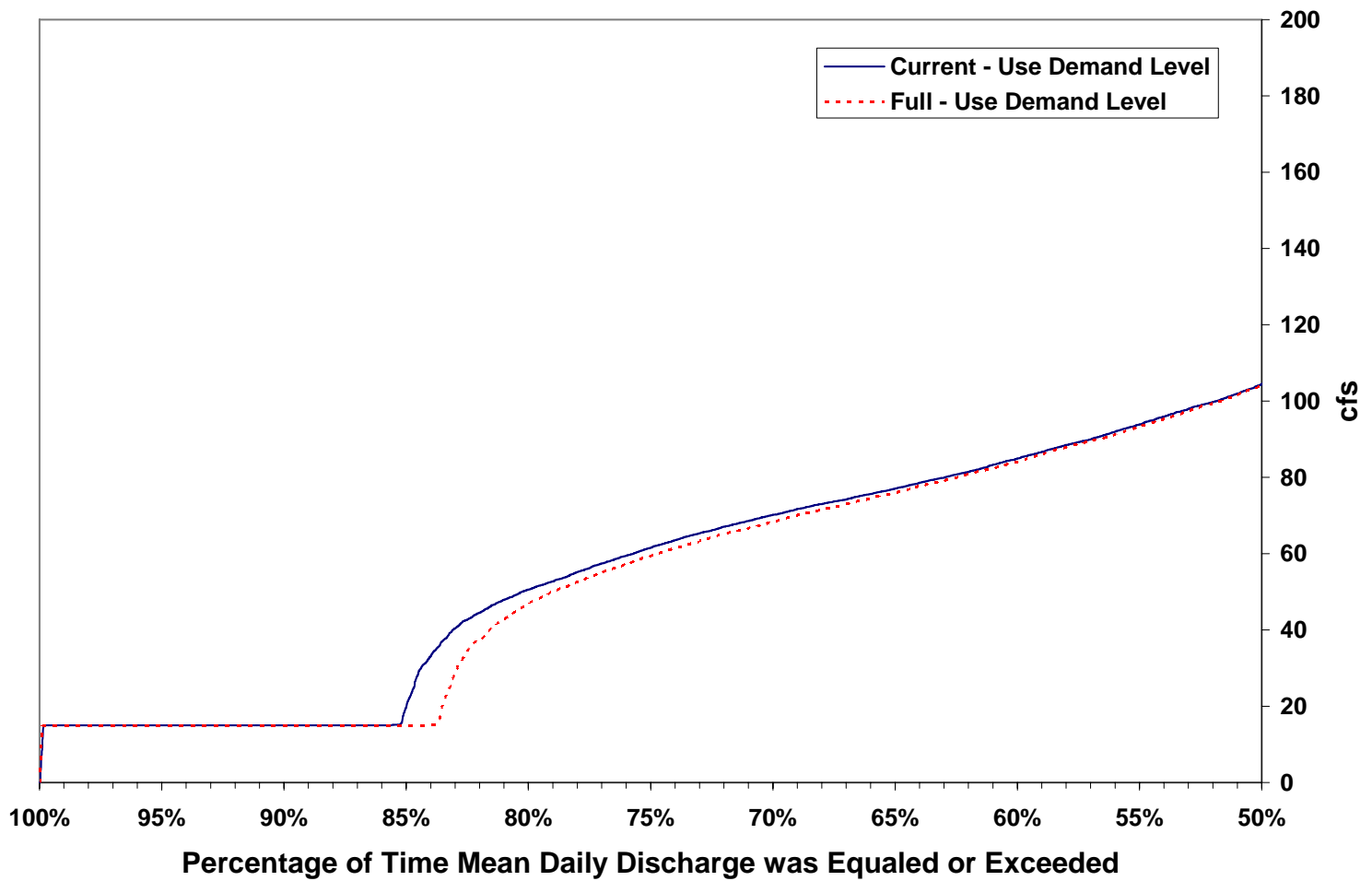
WATER YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	MINIMUM	MAXIMUM
1947	149	131	94	70	65	64	245	228	228	494	213	286	64	494
1948	222	152	140	103	91	87	22	221	228	133	251	162	22	251
1949	158	100	84	78	81	76	242	15	393	385	253	215	15	393
1950	206	152	87	74	77	89	40	231	15	190	227	142	15	
1951	114	105	87	78	66	272	268	228	15	299	243	223	15	299
1952	166	123	93	72	77	277	251	221	467	260	153	223	72	467
1953	156	119	78	94	66	65	45	241	228	151	221	147	45	241
1954	107	101	75	54	59	54	73	31	103	270	298	87	31	298
1955	145	90	68	129	61	47	31	15	15	196	298	207	15	298
1956	89	87	78	190	142	76	39	15	15	204	188	100	15	204
1957	90	98	74	70	67	67	43	15	228	243	162	207	15	243
1958	205	131	127	103	82	86	256	228	228	173	185	138	82	256
1959	123	90	78	70	61	55	62	15	15	137	181	130	15	181
1960	156	134	100	81	76	49	29	221	115	255	236	141	29	255
1961	129	96	65	42	50	57	83	22	18	255	264	117	18	264
1962	58	150	124	87	67	56	228	228	404	352	202	173	56	404
1963	157	104	73	51	63	64	80	33	34	204	252	287	33	287
1964	146	103	58	77	50	49	60	32	15	101	217	146	15	217
1965	103	106	86	95	85	55	50	15	15	29	181	167	15	181
1966	167	133	105	81	58	72	62	15	61	177	175	152	15	177
1967	138	89	65	85	193	77	65	48	15	57	227	174	15	227
1968	157	130	86	151	76	59	89	15	15	44	74	215	15	215
1969	156	121	81	84	60	51	35	228	136	241	231	220	35	241
1970	161	101	83	89	76	58	248	228	228	137	176	150	58	248
1971	165	163	124	99	94	269	232	15	273	341	231	214	15	341
1972	200	148	102	90	84	73	26	221	21	81	239	172	21	239
1973	152	102	92	71	66	59	63	228	228	292	137	194	59	292
1974	156	138	88	79	65	230	256	228	228	127	193	183	65	256
1975	174	125	95	77	67	51	256	228	15	15	82	213	15	256
1976	156	98	77	74	64	57	46	221	21	58	175	210	21	221
1977	197	130	79	65	61	59	82	34	108	239	307	100	34	307
1978	169	108	97	165	170	79	15	15	15	15	167	170	15	170
1979	143	101	80	77	66	69	39	15	228	131	136	176	15	228
1980	140	135	94	97	81	252	245	21	15	182	200	180	15	252
1981	146	113	85	52	48	56	93	35	24	119	170	172	24	172
1982	132	100	78	100	192	70	59	15	15	266	141	197	15	266
1983	181	129	128	104	123	289	265	228	228	725	250	155	104	725
1984	207	125	106	108	92	231	246	221	827	550	229	124	92	827
1985	114	267	63	70	74	48	228	228	615	158	138	188	48	615
1986	123	80	102	91	68	18	228	228	393	285	153	188	18	393
1987	143	72	98	90	93	89	53	15	211	153	230	173	15	230
1988	142	121	109	111	94	74	226	21	19	225	264	156	19	264
1989	134	124	92	80	76	72	45	15	15	100	201	172	15	201
1990	132	112	100	75	70	102	116	54	15	103	234	196	15	234
1991	206	138	87	71	67	86	104	43	15	22	194	207	15	207
AVERAGE:	151	119	90	88	81	95	124	114	150	204	204	177	81	204
MINIMUM:	58	72	58	42	48	18	15	15	15	15	74	87	15	87
MAXIMUM:	222	267	140	190	193	289	268	241	827	725	307	287	140	827

Williams Fork Reservoir Modeled Daily Outflow Exceedance Curve (Daily Flows 1947 - 1991)



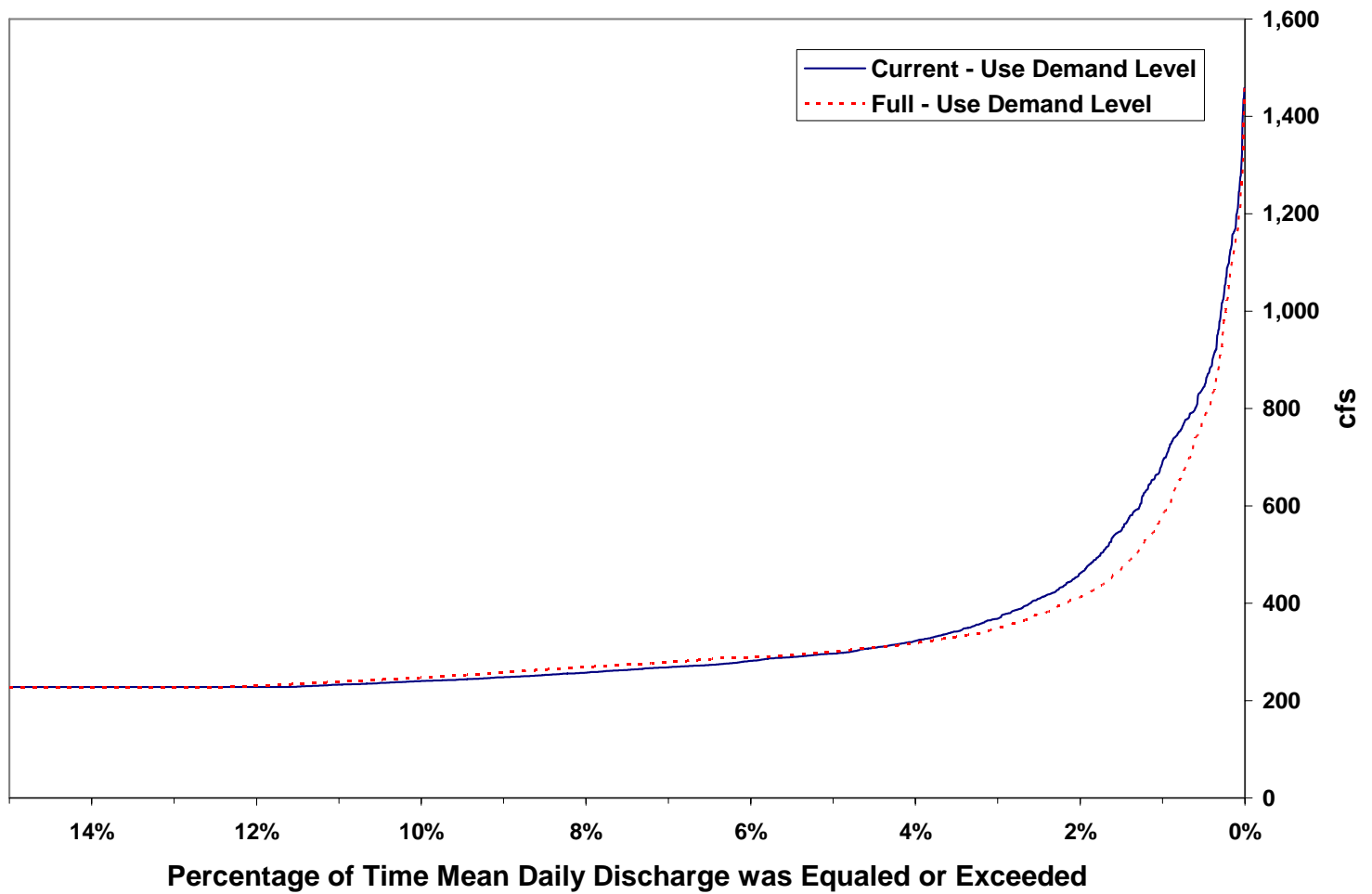
Note: This figure presents the entire range of modeled outflows from the Williams Fork Project. The two following figures present the upper and lower portions of the outflow range at an expanded scale to allow more resolution of the differences between the two demand levels.

Williams Fork Reservoir Modeled Daily Outflow Exceedance Curve (Daily Flows 1947 - 1991)



Note: This figure presents the lower range of modeled outflows (less than 100 cfs) from the Williams Fork Project at an expanded scale.

Williams Fork Reservoir Modeled Daily Outflow Exceedance Curve (Daily Flows 1947 - 1991)



Note: This figure presents the upper range of modeled outflows (more than 200 cfs) from the Williams Fork Project at an expanded scale.

Appendix D

Williams Fork Project Temperature and Dissolved Oxygen Data

Appendix D

Williams Fork Project Temperature and Dissolved Oxygen Data

This appendix contains temperature and dissolved oxygen (D.O.) data collected at the Williams Fork Project during the summers of 2000, 2001, and 2003, including inlet, outlet, and reservoir profile data. No data set is available for 2002 because drought conditions resulted in very low reservoir water levels that prohibited launching a boat on the reservoir for data collection.

Denver Water operates a state-certified water quality laboratory. Sampling of Williams Fork Reservoir inlet water quality is conducted just upstream of the reservoir on the east side of Williams Fork River across from the USGS gaging station, and sampling of Williams Fork Reservoir outlet water quality is conducted at the USGS gaging station immediately below the Williams Fork dam. Williams Fork Reservoir temperature and D.O. profile data are recorded at a standard position just upstream of the dam, and the reservoir elevation is recorded at the time of sampling.

Single monthly samples were taken during May through October of 2000, June through September of 2001, and June through September of 2003. The data collection effort focused on the ice-free period because summer stratification is generally the period when water temperatures or dissolved oxygen would have the greatest potential to affect aquatic resources. Sampling dates and associated reservoir water surface elevations are listed below.

Sampling Date	Reservoir Elevation	Sampling Date	Reservoir Elevation	Sampling Date	Reservoir Elevation
5/24/2000	7,801				
6/20/2000	7,811	6/6/2001	7,793	6/30/2003	7,808
7/26/2000	7,810	7/18/2001	7,802	7/31/2003	7,806
8/17/2000	7,806	8/23/2001	7,795	8/27/2003	7,800
9/28/2000	7,795	9/19/2001	7,788	9/23/2003	7,794
10/18/2000	7,792				

2000 Water Quality Data for Williams Fork Reservoir

Reservoir Profile Data

Dissolved Oxygen (mg/L)	Depth (meters)										
Month	0	5	10	15	20	25	30	35	40	45	50
May	8.7	7.7	8.7	8.5	8.5	8.4	8.4	8.3	8.3	8.2	
June	7.5	7.4	7.3	7.4	7.4	7.4	7.4	7.4	7.4		
July	6.8	6.6	5.1	5.7	5.9	6.1	6.0	5.8	5.8	5.7	4.9
August	6.8	6.6	4.0	4.6	5.2	5.5	5.4	5.1	5.0		
September	6.7	6.8	6.8	6.9	6.8	3.6	3.4	3.4	3.2		
October	7.0	6.9	6.9	6.9	6.8	6.7	6.0	4.2	1.8		

Reservoir Inlet & Outlet Data

Dissolved Oxygen (mg/L)		
Month	Inlet	Outlet
May	9.5	9.8
June	10.0	9.2
July	7.2	6.9
August	7.6	6.0
September	9.5	5.0
October	9.6	8.8

Reservoir Profile Data

Temperature (°C)	Depth (meters)										
Month	0	5	10	15	20	25	30	35	40	45	50
May	11	10	10	8	7	6	6	6	6	6	6
June	14	14	13	11	9	8	8	8	8		
July	19	18	14	12	11	10	9	8	8	8	8
August	19	19	16	13	11	10	10	9	9		
September	14	14	14	14	14	12	11	10	10		
October	11	11	11	11	11	11	11	11	10		

Reservoir Inlet & Outlet Data

Temperature (°C)		
Month	Inlet	Outlet
May	11	6
June	14	8
July	20	9
August	20	9
September	14	11
October	12	10

2001 Water Quality Data for Williams Fork Reservoir

Reservoir Profile Data

Dissolved Oxygen (mg/L)	Depth (meters)									
Month	0	5	10	15	20	25	30	35	40	45
June	8.5	8.4	8.3	8.1	8.3	8.2	8.0	8.2		
July	7.2	6.9	6.3	6.8	6.9	7.0	6.8	6.8	6.7	6.6
August	7.3	7.2	5.1	4.6	5.8	5.8	5.5	5.3	5.0	
September	7.1	7.1	6.9	6.7	3.7	3.9	3.9	3.7	3.1	1.0

Reservoir Inlet & Outlet Data

Dissolved Oxygen (mg/L)		
Month	Inlet	Outlet
June	8.9	9.8
July	8.3	7.8
August	7.9	6.4
September	8.4	9.2

Reservoir Profile Data

Temperature (°C)	Depth (meters)									
Month	0	5	10	15	20	25	30	35	40	45
June	13	12	12	9	7	7	6	6		
July	19	18	14	10	9	9	8	8	7	7
August	18	17	17	14	11	10	9	8	8	
September	15	14	14	14	13	11	10	9	9	8

Inlet & Outlet Data

Temperature (°C)		
Month	Inlet	Outlet
June	11	7
July	14	8
August	16	9
September	14	9

2003 Water Quality Data for Williams Fork Reservoir

Reservoir Profile Data

Dissolved Oxygen (mg/L)	Depth (meters)									
Month	0	5	10	15	20	25	30	35	40	45
June	7.9	8.0	8.2	8.2	7.9	7.7	7.7	7.6	7.5	7.3
July	6.6	5.8	6.4	6.6	6.6		6.6		6.7	
August	7.8	7.4	7.0	7.4	7.7		8.0			
September	7.7	7.8	7.7	6.6	4.7	4.5	4.4	4.4	4.3	

Reservoir Inlet & Outlet Data

Dissolved Oxygen (mg/L)		
Month	Inlet	Outlet
June	9.4	10.6
July	8.2	8.6
August	7.0	8.5
September	9.5	

Reservoir Profile Data

Temperature (°C)	Depth (meters)									
Month	0	5	10	15	20	25	30	35	40	45
June	15	14	10	8	8	8	8	8	8	8
July	20	18	10	9	8		8		8	
August	18	18	11	10	9		8			
September	13	13	13	12	10	9	9	9	8	

Reservoir Inlet & Outlet Data

Temperature (°C)		
Month	Inlet	Outlet
June	10	9
July	17	19
August	16	8
September	11	

Appendix E

Certification under Section 401 of the Clean Water Act

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

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Located in Glendale, Colorado

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Denver, Colorado 80230-6928
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<http://www.cdphe.state.co.us>



Colorado Department
of Public Health
and Environment

June 9, 2004

Kevin Urie
Denver Water
1600 West 12th Avenue
Denver, Colorado 80204

06-14-04 P03:05 OUT

Re: Section 401 Water Quality Certification

Colorado 401 Certification No.: 2987

FERC License: 2204

Description: Federal Energy Regulatory Commission (FERC) re-licensing of existing hydroelectric generation facility.

Location: Southwest of Parhalls, Colorado on the Williams Fork River. Outfall of dam is at approximately 40.03497 North, 106.20475 West in Grand County, Colorado.

Watercourse: Williams Fork River, Upper Colorado River Basin, Segment CoUCUC08 of Upper Colorado River Sub-basin.

Designation: Reviewable

Dear Mr. Urie:

The Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division (Division) has completed its review of the subject Clean Water Act (CWA) Section 404 Permit Application, and our preliminary determination with the issuance of the State of Colorado 401 Certification Public Notice (5 CCR 1002-82.5(B)). An antidegradation review has also been completed pursuant to Regulation No. 31, Basic Standards and Methodologies for Surface Water (5 CCR 1002-31). The Division's review concluded that only temporary impacts to water quality should occur as a result of this project.

This letter shall serve as official notification that the Division is issuing "Regular Certification" in accordance with 5 CCR 1002-82.5(A)(2).

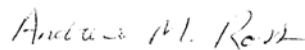
The 401 Certification issued by the Division pursuant to 5 CCR 1002-82.3(C) shall apply to both the construction and operation of the project for which a federal license or permit is required, and shall apply to the water quality impacts associated with the project.

Kevin Urie, Denver Water
June 9, 2004
Page 2

This certification does not constitute a relinquishment of the Division's authority as defined in the Colorado Water Quality Control Act, nor does it fulfill or waive any other local, state, or federal regulations.

If you have any questions or need additional information, please contact Andrew Ross at (303) 692-3540.

Sincerely,

A handwritten signature in dark ink, appearing to read "Andrew Ross".

Andrew Ross
Water Quality Assessor
Water Quality Control Division
Colorado Department of Public Health and Environment

Attachment

cc: Federal Energy Regulatory Commission, Washington, D.C. 20426
District Engineer, Mr. Andy Poirot, Water Quality Control Division w/o attachment
File

Certification Requirements:

(A) The following requirements shall apply to all certifications:

- (1) Authorized representatives from the Division shall be permitted to enter upon the site where the construction activity or operation of the project is taking place for purposes of inspection of compliance with BMPs and certification conditions.
- (2) In the event of any changes in control or ownership of facilities where the construction activity or operation of the project is taking place, the successor shall be notified in writing by his predecessor of the existence of the BMPs and certification conditions. A copy of such notification shall be provided to the Division.
- (3) If the permittee discovers that certification conditions are not being implemented as designed, or if there is an exceedance of water quality standards despite compliance with the certification conditions and there is reason to believe that the exceedance is caused, in whole or in part, by the project, the permittee shall verbally notify the Division of such failure or exceedance within two (2) working days of becoming aware of the same. Within ten (10) working days of such notification, the permittee shall provide to the Division, in writing, the following:
 - (a) In the case of the failure to comply with the certification conditions, a description of (i) the nature of such failure, (ii) any reasons for such failure, (iii) the period of non-compliance, and (iv) the measures to be taken to correct such failure to comply; and
 - (b) In the case of the exceedance of a water quality standard, (i) an explanation, to the extent known after reasonable investigation, of the relationship between the project and the exceedance, (ii) the identity of any other known contributions to the exceedance, and (iii) a proposal to modify the certification conditions so as to remedy the contribution of the project to the exceedance.
- (4) Any anticipated change in discharge location and/or quantities associated with the project which may result in water quality impacts not considered in the original certification must be reported to the Division by submission of a written notice by the permittee prior to the change. If the change is determined to be significant, the permittee will be notified within ten days, and the change will be acknowledged and approved or disapproved.
- (5) Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions herein is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with limitations and prohibitions herein. The Division shall be notified immediately in writing of each such diversion or bypass.

- (6) At least fifteen days prior to commencement of a project in a watercourse, which the Division has certified, or conditionally certified, the permittee shall notify the following:
- (a) Applicable local health departments;
 - (b) Owners or operators of municipal and domestic water treatment intakes which are located within twenty miles downstream from the site of the project; and
 - (c) Owners or operators of other intakes or diversions which are located within five miles downstream from the site of the project.

The permittee shall maintain a list of the persons and entities notified, including the date and form of notification.

- (7) Immediately upon discovery of any spill or other discharge to waters of the state not authorized by the applicable license or permit, the permittee shall notify the following;
- (a) Applicable local health departments;
 - (b) Owners or operators of municipal and domestic water treatment intakes which are located within twenty miles downstream from the site of the project; and
 - (c) Owners or operators of other intakes or diversions which are located within five miles downstream from the site of the project.

The permittee shall maintain a list of the persons and entities notified, including the date and form of notification.

- (8) Construction operations within watercourses and water bodies shall be restricted to only those project areas specified in the federal license or permit.
- (9) No construction equipment shall be operated below the existing water surface unless specifically authorized by the 401 certification issued by the Division.
- (10) Work should be carried out diligently and completed as soon as practicable. To the maximum extent practicable, discharges of dredged or fill material shall be restricted to those periods when impacts to designated uses are minimal.
- (11) The project shall incorporate provisions for operation, maintenance, and replacement of BMPs to assure compliance with the conditions identified in this section, and any other conditions placed in the permit or certification. All such provisions shall be identified and compiled in an operation and maintenance plan which will be retained by the project owner and available for inspection within a reasonable timeframe upon request by any authorized representative of the Division.

- (12) The use of chemicals during construction and operation shall be in accordance with the manufacturers' specifications. There shall be no excess application and introduction of chemicals into state waters.
- (13) All solids, sludges, dredged or stockpiled materials and all fuels, lubricants, or other toxic materials shall be controlled in a manner so as to prevent such materials from entering state waters.
- (14) All seed, mulching material and straw used in the project shall be state-certified weed-free.
- (15) Discharges of dredged or fill material in excess of that necessary to complete the project are not permitted.
- (16) Discharges to state waters not identified in the license or permit and not certified in accordance therewith are not allowed, subject to the terms of any 401 certification.
- (17) Except as otherwise provided pursuant to subsection 82.7(C), no discharge shall be allowed which causes non-attainment of a narrative water quality standard identified in the Basic Standards and Methodologies for Surface Waters, Regulation #31 (5 CCR 1002-31), including, but not limited to discharges of substances in amounts, concentrations or combinations which:
 - (a) Can settle to form bottom deposits detrimental to beneficial uses; or
 - (b) Form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses; or
 - (c) Produce color, odor, or other conditions in such a degree as to create a nuisance or harm existing beneficial uses or impart any undesirable taste to significant edible aquatic species, or to the water; or
 - (d) Are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life; or
 - (e) Produce a predominance of undesirable aquatic life; or
 - (f) Cause a film on the surface or produce a deposit on shorelines.

(B) Best Management Practices:

- (1) Best management practices are required for all projects for which Division certification is issued except for section 402 permits. Project applicants must select BMPs to be employed in their project. A listing and description of best management practices is located in Appendix I of Regulation No. 82: 401 Certification Regulation 5 CCR 1002-82.
- (2) All requests for certifications which require BMPs shall include a map of project location, a site plan, and a listing of the selected BMPs chosen for the project. At a minimum, each project must provide for the following:

- (a) Permanent erosion and sediment control measures that shall be installed at the earliest practicable time consistent with good construction practices and that shall be maintained and replaced as necessary throughout the life of the project.
- (b) Temporary erosion and sediment control measures that shall be coordinated with permanent measures to assure economical, effective, and continuous control throughout the construction phase and during the operation of the project.

Appendix F

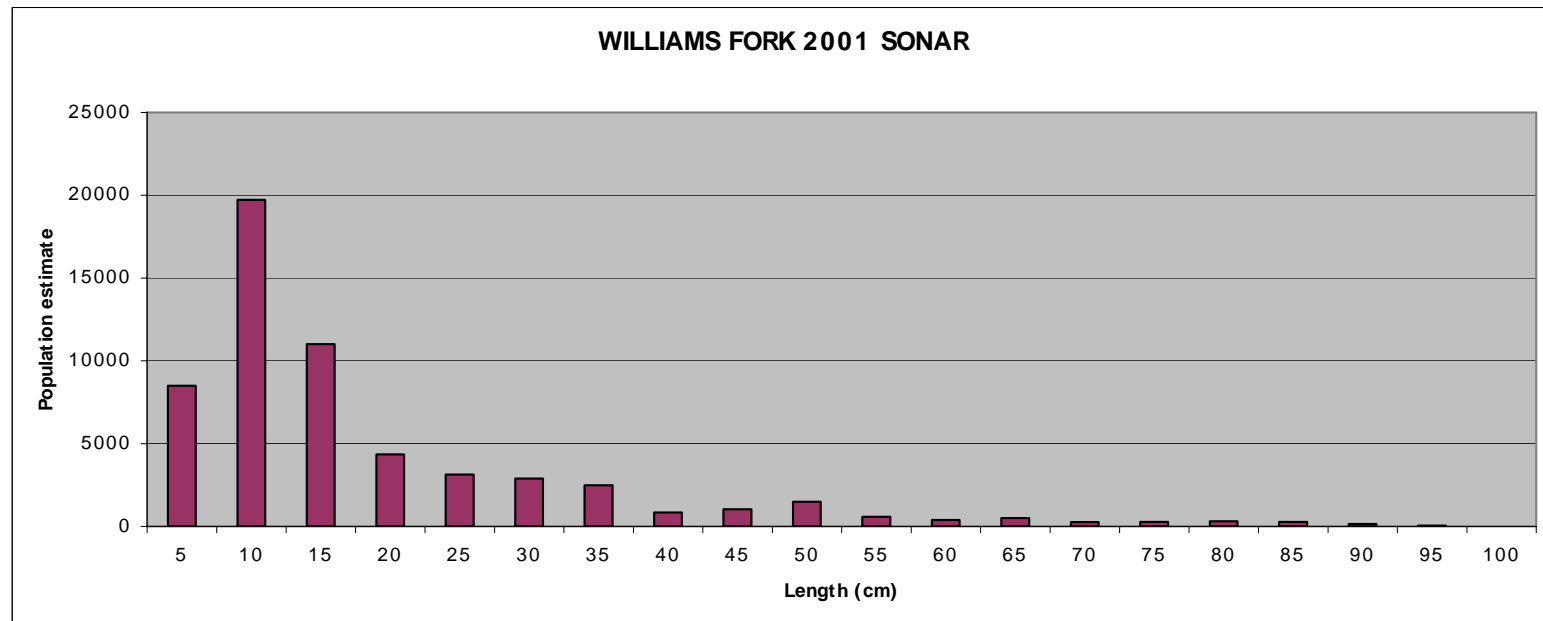
Williams Fork Project Fisheries Information

Williams Fork Reservoir SONAR survey

21-Aug-97

Length (cm) FREQUENCY

5	8492
10	19721
15	11000
20	4354
25	3130
30	2892
35	2488
40	838
45	1034
50	1492
55	577
60	397
65	499
70	260
75	280
80	302
85	276
90	148
95	45
100	0
105	0
110	0
115	0
120	0



These numbers represent the fish detected in the pelagic zone. We probably do not see many of the northern pike (near shore), white suckers (bottom), or rainbow trout (surface) with this system (downlooking SONAR)

Our system is ideal for detecting pelagic fish like kokanee that suspend off the bottom at depth at night

From our spawn operation, we know that 2001 kokanee spawners averaged 19 inches in length (range from 16-22 in) -

Lakewide estimate for fish 16-22 inches (40-56 cm): 3941

Total pelagic fish estimate: 58225

See 2001 SONAR report for more detailed information from this survey

Note: Information above provided by Colorado Division of Wildlife

2002 -2004 CDOW Williams Fork River Fish Population Data

Key information:

- 1) All population estimates are determined by Leslie two-pass depletion method.
- 2) Species Key

LOC = Brown trout
RBT = Rainbow trout
LGS = Longnose sucker
WHS = White Sucker
MTS = Mottled sculpin
NPK = Northern pike

- 3) Size Classes

The size class information in the length-frequency record is presented in 2 centimeter groupings. The first size class on the left side of the table is 0-2 cm and it proceeds by 2cm thereafter (e.g., 0-2, 2-4, 4-6, 6-8, etc.).

- 4) Sampling Site Location Information

1. ***Kemp Launch Gate*** is located on the lower portion of the Williams Fork River just above the confluence with the Colorado River. This is the lowermost site.
2. ***Irrigation Diversion*** and ***Below Diversion*** represent the same site, which is located immediately below the irrigation diversion structure. This site is between the dam site and the Kemp Launch Gate site (i.e., near the middle of the of the river reach below the dam).
3. ***Denver Water Board, Denver Water Board - below, Dam-Denv. Water, and Below Dam - Denver Water*** all represent the same site, located just below the dam. This is the uppermost site.

- 5) Data provided by the Colorado Division of Wildlife.

Contact:

Bill Atkinson
Fishery Biologist
P.O. Box 775777, 925 Weiss Drive
Steamboat Springs, CO 80477
(970) 870-2197

05/08/2004

Location	Kemp Launch Base	Water Code	22477
Drainage	Colorado	UTM Zone	18T
Crew	Thompson, Chasen, Padia et	UTM X	394048
Notes		UTM Y	4434602
	See Nehring/Thompson annual report for details	Station Length (ft)	180
		Station Width (ft)	39

LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (cm)

[illegible]

05/08/2001

Location	Kemp Launch Gate	Water Code	22277
Drainage	Colorado	UTM Zone	18T
Crew	Thompson, Chason, Padia et	UTM X	330048
Notes	See Nehning/Thompson annual report for details	UTM Y	4434662
		Station Length (ft)	650
		Station Width (ft)	59

LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (cm)

[illegible]

05/08/2004

Location	Irrigation Division	Water Code	22177
Drainage	Colorado	UTM Zone	18T
Crew	Neiring, Chacon, Padia et al	UTM X	398298
Notes		UTM Y	4433873
See Neiring/Thompson annual report for details		Station Length (ft)	780
		Station Width (ft)	42

LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (cm)

[illegible]

05/08/2001

Water Code

22777

Drainage Colorado

Drainage Colorado

Crew
Nehring, Chacon, Padia et al

398268

UTM X 4433873

1000

(ii) subject income

0927

LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (cm)

[illegible]

05/09/2004

Location	Denver Water Board	Water Code	22777
Drainage	Colorado		
Crew	Nehring, Chacon, Padia et al	UTM Zone	13T
Notes		UTM X	387148
	See Nehring/Thompson annual report for details	UTM Y	4432419
		Station Length (ft)	
			37D
		Station Width (ft)	
			31

LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (cm)

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05/09/2001

Water Code

Denver Winter Board

Drainage: Colorado

Crew
Nehring, Chaeon, Padia et al

Notes

See Mehring/Thompson annual report for

Details

Station Length (ft)

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LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (cm)

[illegible]

4111912002

Water Code

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Abstract

(1974) (1974)

For more information, contact the publisher at 1-800-394-3663 or visit our website at www.mhhe.com.

Prácticas

from 2001 to 2003, 1997 to 1999, and 1993 to 1995.

Notes

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此系由《说文解字》“𠂔”部所引，其文为：“𠂔，古文𠂔。”

[illegible]

LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (cm)

[illegible]

14/19/2002

Water Code

122777

UTM Zone

398389

443476

1. This

VISION HEIGHT (VH)
of the vertical component
of the
of the

Station WJLA-TV

品名

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (CM)

Species	32	34	46	66	82	94	106	118	130	142	154	166	178	190	202	214	226	238	250	262	274	286	298	310	322	334	346	358	370	382	394	406	418	430	442	454	466	478	490	502	514	526	538	550	562	574	586	598	610	622	634	646	658	670	682	694	706	718	730	742	754	766	778	790	802	814	826	838	850	862	874	886	898	910	922	934	946	958	970	982	994	1006	1018	1030	1042	1054	1066	1078	1090	1102	1114	1126	1138	1150	1162	1174	1186	1198	1210	1222	1234	1246	1258	1270	1282	1294	1306	1318	1330	1342	1354	1366	1378	1390	1402	1414	1426	1438	1450	1462	1474	1486	1498	1510	1522	1534	1546	1558	1570	1582	1594	1606	1618	1630	1642	1654	1666	1678	1690	1702	1714	1726	1738	1750	1762	1774	1786	1798	1810	1822	1834	1846	1858	1870	1882	1894	1906	1918	1930	1942	1954	1966	1978	1990	2002	2014	2026	2038	2050	2062	2074	2086	2098	2110	2122	2134	2146	2158	2170	2182	2194	2206	2218	2230	2242	2254	2266	2278	2290	2302	2314	2326	2338	2350	2362	2374	2386	2398	2410	2422	2434	2446	2458	2470	2482	2494	2506	2518	2530	2542	2554	2566	2578	2590	2602	2614	2626	2638	2650	2662	2674	2686	2698	2710	2722	2734	2746	2758	2770	2782	2794	2806	2818	2830	2842	2854	2866	2878	2890	2902	2914	2926	2938	2950	2962	2974	2986	2998	3010	3022	3034	3046	3058	3070	3082	3094	3106	3118	3130	3142	3154	3166	3178	3190	3202	3214	3226	3238	3250	3262	3274	3286	3298	3310	3322	3334	3346	3358	3370	3382	3394	3406	3418	3430	3442	3454	3466	3478	3490	3502	3514	3526	3538	3550	3562	3574	3586	3598	3610	3622	3634	3646	3658	3670	3682	3694	3706	3718	3730	3742	3754	3766	3778	3790	3802	3814	3826	3838	3850	3862	3874	3886	3898	3910	3922	3934	3946	3958	3970	3982	3994	4006	4018	4030	4042	4054	4066	4078	4090	4102	4114	4126	4138	4150	4162	4174	4186	4198	4210	4222	4234	4246	4258	4270	4282	4294	4306	4318	4330	4342	4354	4366	4378	4390	4402	4414	4426	4438	4450	4462	4474	4486	4498	4510	4522	4534	4546	4558	4570	4582	4594	4606	4618	4630	4642	4654	4666	4678	4690	4702	4714	4726	4738	4750	4762	4774	4786	4798	4810	4822	4834	4846	4858	4870	4882	4894	4906	4918	4930	4942	4954	4966	4978	4990	5002	5014	5026	5038	5050	5062	5074	5086	5098	5110	5122	5134	5146	5158	5170	5182	5194	5206	5218	5230	5242	5254	5266	5278	5290	5302	5314	5326	5338	5350	5362	5374	5386	5398	5410	5422	5434	5446	5458	5470	5482	5494	5506	5518	5530	5542	5554	5566	5578	5590	5602	5614	5626	5638	5650	5662	5674	5686	5698	5710	5722	5734	5746	5758	5770	5782	5794	5806	5818	5830	5842	5854	5866	5878	5890	5902	5914	5926	5938	5950	5962	5974	5986	5998	6010	6022	6034	6046	6058	6070	6082	6094	6106	6118	6130	6142	6154	6166	6178	6190	6202	6214	6226	6238	6250	6262	6274	6286	6298	6310	6322	6334	6346	6358	6370	6382	6394	6406	6418	6430	6442	6454	6466	6478	6490	6502	6514	6526	6538	6550	6562	6574	6586	6598	6610	6622	6634	6646	6658	6670	6682	6694	6706	6718	6730	6742	6754	6766	6778	6790	6802	6814	6826	6838	6850	6862	6874	6886	6898	6910	6922	6934	6946	6958	6970	6982	6994	7006	7018	7030	7042	7054	7066	7078	7090	7102	7114	7126	7138	7150	7162	7174	7186	7198	7210	7222	7234	7246	7258	7270	7282	7294	7306	7318	7330	7342	7354	7366	7378	7390	7402	7414	7426	7438	7450	7462	7474	7486	7498	7510	7522	7534	7546	7558	7570	7582	7594	7606	7618	7630	7642	7654	7666	7678	7690	7702	7714	7726	7738	7750	7762	7774	7786	7798	7810	7822	7834	7846	7858	7870	7882	7894	7906	7918	7930	7942	7954	7966	7978	7990	8002	8014	8026	8038	8050	8062	8074	8086	8098	8110	8122	8134	8146	8158	8170	8182	8194	8206	8218	8230	8242	8254	8266	8278	8290	8302	8314	8326	8338	8350	8362	8374	8386	8398	8410	8422	8434	8446	8458	8470	8482	8494	8506	8518	8530	8542	8554	8566	8578	8590	8602	8614	8626	8638	8650	8662	8674	8686	8698	8710	8722	8734	8746	8758	8770	8782	8794	8806	8818	8830	8842	8854	8866	8878	8890	8902	8914	8926	8938	8950	8962	8974	8986	8998	9010	9022	9034	9046	9058	9070	9082	9094	9106	9118	9130	9142	9154	9166	9178	9190	9202	9214	9226	9238	9250	9262	9274	9286	9298	9310	9322	9334	9346	9358	9370	9382	9394	9406	9418	9430	9442	9454	9466	9478	9490	9502	9514	9526	9538	9550	9562	9574	9586	9598	9610	9622	9634	9646	9658	9670	9682	9694	9706	9718	9730	9742	9754	9766	9778	9790	9802	9814	9826	9838	9850	9862	9874	9886	9898	9910	9922	9934	9946	9958	9970	9982	9994	10006	10018	10030	10042	10054	10066	10078	10090	10102	10114	10126	10138	10150	10162	10174	10186	10198	10210	10222	10234	10246	10258	10270	10282	10294	10306	10318	10330	10342	10354	10366	10378	10390	10402	10414	10426	10438	10450	10462	10474	10486	10498	10510	10522	10534	10546	10558	10570	10582	10594	10606	10618	10630	10642	10654	10666	10678	10690	10702	10714	10726	10738	10750	10762	10774	10786	10798	10810	10822	10834	10846	10858	10870	10882	10894	10906	10918	10930	10942	10954	10966	10978	10990	11002	11014	11026	11038	11050	11062	11074	11086	11098	11110	11122	11134	11146	11158	11170	11182	11194	11206	11218	11230	11242	11254	11266	11278	11290	11302	11314	11326	11338	11350	11362	11374	11386	11398	11410	11422	11434	11446	11458	11470	11482	11494	11506	11518	11530	11542	11554	11566	11578	11590	11602	11614	11626	11638	11650	11662	11674	11686	11698	11710	11722	11734	11746	11758	11770	11782	11794	11806	11818	11830	11842	11854	11866	11878	11890	11902	11914	11926	11938	11950	11962	11974	11986	11998	12010	12022	12034	12046	12058	12070	12082	12094	12106	12118	12130	12142	12154	12166	12178	12190	12202	12214	12226	12238	12250	12262	12274	12286	12298	12310	12322	12334	12346	12358	12370	12382	12394	12406	12418	12430	12442	12454	12466	12478	12490	12502	12514	12526	12538	12550	12562	12574	12586	12598	12610	12622	12634	12646	12658	12670	12682	12694	12706	12718	12730	12742	12754	12766	12778	12790	12802	12814	12826	12838	12850	12862	12874	12886	12898	12910	12922	12934	12946	12958	12970	12982	12994	13006	13018	13030	13042	13054	13066	13078	13090	13102	13114	13126	13138	13150	13162	13174	13186	13198	13210	13222	13234	13246	13258	13270	13282	13294	13306	13318	13330	13342	13354	13366	13378	13390	13402	13414	13426	13438	13450	13462	13474	13486	13498	13510	13522	13534	13546	13558	13570	13582	13594	13606	13618	13630	13642	13654	13666	13678	13690	13702	13714	13726	13738	13750	13762	13774	13786	13798	13810	13822	13834	13846	13858	13870	13882	13894	13906	13918	13930	13942	13954	13966	13978	13990	14002	14014	14026	14038	14050	14062	14074	14086	14098	14110	14122	14134	14146	14158	14170	14182	14194	14206	14218	14230	14242	14254	14266	14278	14290	14302	14314	14326	14338	14350	14362	14374	14386	14398	14410	14422	14434	14446	14458	14470	14482	14494	14506	14518	14530	14542	14554	14566	14578	14590	14602	14614	14626	14638	14650	14662	14674	14686	14698	14710	14722	14734	14746	14758	14770	14782	14794	14806	14818	14830	14842	14854	14866	14878	14890	14902	14914	14926	14938	14950	14962	14974	14986	14998	15010	15022	15034	15046	15058	15070	15082	15094	15106	15118	15130	15142	15154	15166	15178	15190	15202	15214	15226	15238	15250	15262	15274	15286	15298	15310	15322	15334	15346	15358	15370	15382	15394	15406	15418	15430	15442	15454	15466	15478	15490	15502	15514	15526	15538	15550	15562	15574	15586	15598	15610	15622	15634	15646	15658	15670	15682	15694	15706	15718	15730	15742	15754	15766	15778	15790	15802	15814	15826	15838	15850	15862	15874	15886	15898	15910	15922	15934	15946	15958	15970	
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Water Code	122777	UTM Zone	13T	UTM X	UTM Y	Station Length (ft)	800	Station Width (ft)	31
Location	Denver Water Board- below	Crew	BA, RBN, KGT, and Nelling	Notes: Significantly lower flows for second pass thus very different capture probabilities. KGR not present, therefore no heights taken or UTM					
Drainage	Colorado River								

SUMMARY INFORMATION

[illegible][illegible]

14/18/2003

LEZAR

101

4403116

For information:

2000

Downloaded from <http://ajphaphysoc.org/> at University of California, San Diego on June 11, 2015

[illegible][illegible]

11/18/2003

Location	Dam - Denver, Water	UTM Zone	13T	Water Code	22777
Endrange	Colorado River	UTM X	387148	Station Length (ft)	4432419
Crew	ISA, AM, Dams, Holland,	UTM Y		Station	80D
Notes	Get lengths and UTM's from old files. Andy Holland helped to work fish. Water flows were 32 cfs down from 71 cfs, 3 rods back into S.R. 40' RT's unit. Collected: 20 1+ LOC, 18 yoy LOC, 18 yoy RBT.	UTM Zone	13T	Station Width (ft)	

LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (CM)

[illegible]

11/18/2003

Water Code	WATER	UTM Zone	13T	Station Length (ft)	800	Station Width (ft)	31
UTM X	4347186	UTM Y	4432419				
Location	Dam - Davis, Water						
Drainage	Colorado River						
Crew	BA, RM, Blank, AtHolland,						
Notes	<p>Get lengths and UTMs from old files. Andy Holland helped to work fish. Water flows were 62 cfs down from 71 cfs; 5 made bank unit-S.R. 497 KT's unit. Collected: 20 1+ LOC, 10 yoy LOC, 10 yoy RBT.</p>						

LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY REDUND (CM)

[illegible]

11/16/2004

Water Code

2222

131

0100451340010

4493718

100

Conclusions

通識教育

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apodiarum

131

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SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (cm)

[illegible]

11/16/2004

Winter Code

Location Below Dam - Denver Water

Drainage Colorado River

Crew
BA Ken B. Jerry C. Mike C.

Notes

Flows were dropped to 50 CFS from 250 CFS; lower numbers vs. 200\$ may be result of higher flows through canyon

Winter Code

2277

UTM Zone 18T

397186

4432419

Station length (m)

008

CONSTITUTIONAL PRINCIPLES

LEVEL 2 - STREAM SURVEY SUMMARY (2 PASS REMOVAL)

SUMMARY INFORMATION

[illegible]

LENGTH FREQUENCY RECORD (cm)

[illegible]

Appendix G

Calculation of Stage Change Associated with Denver Water's Ramping Proposal

Appendix G

Calculation of Stage Change Associated with Denver Water's Ramping Proposal

Proposal:

Reservoir Outflow Rate	Maximum Flow Rate Change
15 to 50 cfs	25 cfs/hour \pm 5 cfs
51 to 125 cfs	50 cfs/hour \pm 10 cfs
126 to 250 cfs	75 cfs/hour \pm 15 cfs
>251 cfs	100 cfs/hour \pm 20 cfs

Flow and stage readings from USGS gage records, USGS Station 09038500 -Williams Fork below Williams Fork Reservoir, Colorado. Stage is inside gage height.
http://nwis.waterdata.usgs.gov/nwis/measurements/?site_no=09038500

Flow (cfs)	Stage (feet)	Stage difference (feet)	Stage change per cfs (inches/cfs)	Stage change (inches/hour)
15	0.71			
50	1.15*	$1.15 - 0.71 = 0.44$	$(0.44*12)/35\text{cfs} = 0.15086$	$0.15086*25\text{cfs/hr} = 3.77$
125	1.61	$1.61 - 1.15 = 0.46$	$(0.46*12)/75\text{cfs} = 0.07360$	$0.07360*50\text{cfs/hr} = 3.68$
250	2.235	$2.235 - 1.61 = 0.625$	$(0.625*12)/125\text{cfs} = 0.06$	$0.06*75\text{cfs/hr} = 4.50$
575	3.33	$3.33 - 2.235 = 1.1$	$1.1/325\text{cfs}*12 = 0.04062$	$0.04062*100\text{cfs/hr} = 4.06$

* Interpolated value between 48.5 cfs @ 1.14 feet and 53.1 cfs @ 1.18feet.